

ENVIRONMENTAL INDICATORS

	Argos	GCCA	GRI	SASB	DJSI	2017	2018	2019	2020	Goal 2030	Comments
CO₂ EMISSIONS											
Cement											
Direct (Scope 1) GHG emissions (t CO ₂)			305-1		2.3.1	7,475,544	7,794,246	8,186,930	7,281,478		
Indirect (Scope 2) GHG emissions (t CO ₂)			305-2		2.3.2	417,858	436,090	432,834	399,728		
Total CO ₂ emissions - gross (t CO ₂)		GCCA				7,475,544	7,794,246	8,186,930	7,281,478		
Total CO ₂ emissions - net (tCO ₂)		GCCA				7,362,087	7,661,340	8,057,886	7,176,891		
Specific CO ₂ emissions - gross (kg CO ₂ /t cementitious material)		GCCA	305-4			627	627	638	643		
Specific CO ₂ emissions - net (kg CO ₂ /t cementitious material)	A-EC1	GCCA		EM-CM-110a.2		618	616	628	634	523	
Concrete											
Direct (Scope 1) GHG emissions (t CO ₂)			305-1			135,921	114,944	126,796	72,026		
Indirect (Scope 2) GHG emissions (t CO ₂)			305-2			17,900	14,968	12,737	14,041		
GHG emissions intensity (kg CO ₂ /m ³ concrete)			305-4			13	12	14	9		
Aggregates											
Direct (Scope 1) GHG emissions (t CO ₂)			305-1			3,143	4,899	4,009	2,806		
Indirect (Scope 2) GHG emissions (t CO ₂)			305-2			877	1,109	752	656		
GHG emissions intensity (kgCO ₂ /t product)			305-4			1	2	2	2		
Electricity generation											
Direct (Scope 1) GHG emissions (t CO ₂)			305-1			553,278	384,307	395,896	416,468		
Indirect (Scope 2) GHG emissions (t CO ₂)			305-2			N/A	N/A	N/A	N/A		
GHG emissions intensity (kg CO ₂ /MWh)			305-4			781	865	865	910		
Company											
Direct (Scope 1) GHG emissions tCO ₂			305-1	EM-CM-110a.1	2.3.1	8,167,887	8,298,395	8,713,631	7,772,778		
Indirect (Scope 2) GHG emissions tCO ₂			305-2		2.3.2	436,634	452,167	446,322	414,425		
Total direct and indirect GHG emissions tCO ₂						8,604,521	8,750,562	9,159,953	8,187,203		
Other indirect (Scope 3) GHG emissions tCO ₂ e			305-3		2.6.10	3,571,690	3,580,053	4,328,311	4,153,714		
ENERGY AND FUELS											
Energy consumption within the organization - cement (GJ)			302-1			38,479,780	40,616,758	42,279,469	37,058,870		
Energy consumption within the organization - concrete (GJ)			302-1			1,995,513	1,696,758	1,836,511	1,102,264		
Energy consumption within the organization - aggregates (GJ)			302-1			64,683	92,730	71,786	50,535		
Energy consumption within the organization - energy generation (GJ)			302-1			6,531,242	4,619,321	5,014,380	4,614,307		
Energy sold to the grid (GJ)			302-1	EM-CM-130a.1		N/A	N/A	161,688	211,309		
Total energy consumption within the organization (GJ)			302-1			45,368,302	45,742,995	47,685,450	41,253,086		
Total non-renewable energy consumption within the organization (MWh)					2.3.3	12,112,395	12,004,281	12,368,809	10,579,857		

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Specific caloric consumption of clinker production (MJ/t clinker)		GCCA				3,709	3,730	3,759	3,684		
Substitution of caloric fuels with alternative fuels (%)	A-ENE1				2.5.1	5.4%	5.1%	5.6%	6.3%	33.0%	
Rate of alternative fuels (%)		GCCA				4.4%	4.9%	4.5%	4.2%		
Biomass rate as fuel (%)		GCCA				1.0%	0.2%	1.0%	2.0%		
MATERIALS											
Cement											
Raw materials						17,859,358	17,284,870	17,838,357	15,327,796		
Auxiliary materials						10,925,284	8,759,543	10,840,546	8,317,068		
Semi-finished			301-1			11,972,923	3,245,333	3,506,215	3,652,037		
Packing						20,101	19,738	17,080	22,906		
Concrete											
Raw materials						20,738,461	19,172,674	17,294,278	16,007,268		
Auxiliary materials			301-1			985,654	825,498	1,320,506	673,430		
Semi-finished						3,688,970	4,724,211	4,169,891	3,925,733		
Aggregates											
Raw materials						2,807,962	2,769,282	2,302,807	1,657,764		
Auxiliary materials			301-1			999	1,269	1,271	52,645		
Semi-finished						-	-	-	-		
Electricity generation											
Raw materials			301-1			-	-	-	-		
Auxiliary materials						442,190,662	97,337,958	862,234	742,312		
Company											
Raw materials						41,405,781	39,226,827	37,435,442	32,992,829		
Auxiliary materials			301-1			454,102,598	106,924,269	13,024,558	9,785,455		
Semi-finished						23,137,437	15,763,790	7,676,107	7,577,771		
Packing						20,101	19,738	17,080	22,906		
Total consumption of materials (t)						518,665,917	161,934,623	58,153,187	50,378,961		
Alternative Raw Materials (cement) (%)	A-EC2	GCCA			2.5.1	10.2%	10.2%	10.7%	12.0%	15.0%	
Supplementary Cementitious Material (concrete) (%)	A-EC3					16.5%	16.3%	16.8%	17.8%	18.0%	
Volume of recycled aggregates used (t accumulated)	A-EC4					5,328	12,720	15,277	17,034		
Ratio Clinker/Cement		GCCA			2.5.1	77%	76%	77%	78%		
WASTE											
Total waste						326,489	212,226	265,068	143,816		
Hazardous waste (t)						789	1,585	847	418		
Reuse / Recycling / Recovery, including recovery of waste / Other post consumption programs						369	801	335	144		
Coprocessing						-	18	12	2		
Incineration						238	282	181	149		
Secure Landfill			306-2	EM-CM-150a.1		183	484	320	123		
Non hazardous waste (t)						325,699	210,641	264,220	143,398		
Reuse / Recycling / Recovery / Composting						51,213	94,180	106,492	84,491		
Coprocessing						13	2,677	58	88		
Incineration						8	335	2	2		
Secure Landfill						5,277	13,142	13,709	5,256		
Authorized site for disposal of concrete debris						213,224	100,307	143,960	53,562		
On-site storage						55,965	N/A	N/A	-		

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Recovery, recycling and reused					107,560	97,675	106,896	84,725		
Hazardous waste					369	819	346	146		
Non hazardous waste					107,191	96,856	106,550	84,579		
Waste disposed through landfill or incineration					2.3.5	218,929	114,551	158,172	59,091	
Hazardous waste					421	766	501	272		
Non hazardous waste					218,508	113,785	157,671	58,819		
OTHER EMISSIONS										
Cement										
Dust										
Absolute dust emissions (t)		305-7		EM-CM-120a.1	1,695	831	863	617		[102-48] Includes emissions from the calcined clay process (8.9 tons of dust emissions)
Absolute dust emissions (t) Only kiln		GCCA - KPI 3			484	406	589	315		
Specific dust emissions (g MP/t clinker)	A-OE1	GCCA - KPI 3			57	45	62	37	45	
Coverage with dust monitoring (percentage of clinker produced in kilns covered with monitoring systems for dust) (%)		GCCA - KPI 4			100 %	100 %	100 %	99 %		
NOx										
Absolute NOx emissions (t NOx)		GCCA - KPI 3	305-7	EM-CM-120a.1	12,183	11,838	10,726	11,106		[102-48] Includes emissions from the calcined clay process (4.98 tons of dust emissions)
Specific NOx emissions (g NOx/t clinker)	A-OE1	GCCA - KPI 3			1,397	1,311	1,128	1,319	1,205	
Coverage with NOx monitoring (percentage of clinker produced in kilns covered with monitoring systems for SO ₂) (%)		GCCA - KPI 4			100 %	100 %	100 %	99 %		
SOx										
Absolute SO ₂ emissions (t SO ₂)		GCCA - KPI 3	305-7	EM-CM-120a.1	2,191	1,780	1,880	1,579		[102-48] Includes emissions from the calcined clay process (96,62 tons of dust emissions)
Specific SO ₂ emissions (g SO ₂ /t clinker)	A-OE1	GCCA - KPI 3			251	197	198	176	205	
Coverage with SO ₂ monitoring (percentage of clinker produced in kilns covered with monitoring systems for SO ₂) %		GCCA - KPI 4			100 %	100 %	100 %	99 %		
Total coverage (percentage of clinker produced in kilns covered with monitoring systems, continuous or discontinuous, for dust, NOx, SO ₂ , VOC/THC, heavy metals) %		GCCA - KPI 1			57.3 %	55.5 %	82.6 %	60.8 %		
Coverage with continuous monitoring of emissions (percentage of clinker produced in kilns covered with continuous monitoring systems for dust, NOx, SO ₂)		GCCA - KPI 2			93.9 %	92.0 %	88.1 %	91.2 %		

	Argos	GCCA	GRI	SASB	DJSI	2017	2018	2019	2020	Goal 2030	Comments
Absolute VOC/THC emissions (t VOC/THC)		GCCA - KPI 3			2.3.10	325	275	355	214		
Specific VOC/THC emissions (g VOC/THC/t clinker)		GCCA - KPI 3		EM-CM-120a.1		65	37	45	47		
Coverage VOC/THC (%)		GCCA - KPI 4				57.3 %	81.7 %	82.6 %	54.5 %		
Absolute PCDD/F emissions (mg PCDD)		GCCA - KPI 3				76	71	149	55		
Specific PCDD/F emissions (mg PCDD/t clinker)		GCCA - KPI 3				18	10	19	8		
Coverage PCDD/F (%)		GCCA - KPI 4				63.4 %	72.1 %	82.6 %	79.8 %		
Absolute Hg emissions (kg Hg)		GCCA - KPI 3			2.3.8	243	226	283	226		
Specific Hg emissions (mg Hg/t clinker)		GCCA - KPI 3				34	31	34	30		
Coverage Hg (%)		GCCA - KPI 4				80.9 %	81.7 %	87.7 %	90.1 %		
Absolute HM1 (Cd + Tl) emissions (kg HM1)		GCCA - KPI 3				45	36	31	18		
Specific HM1 (Cd + Tl) emissions (mg HM1/t clinker)		GCCA - KPI 3				5	5	4	3		
Coverage HM1 (Cd + Tl) (%)		GCCA - KPI 4				80.9 %	75.2 %	82.6 %	79.8 %		
Absolute HM2 emissions (Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V) (kg HM2)		GCCA - KPI 3				3,684	1,312	1,204	2,907		
Specific HM2 emissions (Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V) (mg HM2/t clinker)		GCCA - KPI 3				454	178	153	433		
Coverage HM2 (Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V) (%)		GCCA - KPI 4				80.9 %	75.2 %	82.6 %	79.8 %		
Concrete											
Absolute dust emissions (t)			305-7			142	129	117	97		
Electricity generation											
Absolute dust emissions (t)						60	21	11	37		
Absolute NOx emissions (t NO)						640	375	464	466		
Absolute SO ₂ emissions (t SO ₂ /año)			305-7			3,003	1,844	2,120	1,740		
Company											
Absolute dust emissions (t)					2.3.9	1,897	980	991	751		
Absolute NOx emissions (t NOx/año)			305-7		2.3.6	12,823	12,213	11,190	11,572		
Absolute SO ₂ emissions (t SO ₂ /año)					2.3.7	5,194	3,624	4,000	3,319		

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WATER										
Water Withdrawal (m³)										
Cement										
					3,390,866	3,171,553	3,661,583	2,709,839		
					5,686,243	4,047,012	5,277,888	4,205,991		
					52,580	38,389	141,756	74,064		
					707,704	444,501	514,633	492,301		
Concrete										
					52,459	62,043	81,869	79,267		
					849,967	787,565	827,106	814,159		
					45,021	50,814	32,857	24,738		
					1,481,603	1,360,737	1,163,293	996,012		
Aggregates										
					373,311	299,885	230,402	202,216		
					451	249	399	375		
		303-3	EM-CM-140a.1		3,293	5,572	15	15		
					1,643	1,170	1,125	464		
Electricity generation										
					441,968,405	97,165,248	679,010	556,982		
					197	-	-	757		
					-	-	-	-		
					-	-	-	-		
Company										
					445,785,042	100,698,728	4,652,865	3,548,304		
					6,536,859	4,834,826	6,105,393	5,021,282		
					100,894	94,774	174,627	98,817		
					2,190,950	1,806,408	1,679,051	1,488,777		
	GCCA				13,736,062	11,076,761	12,437,309	10,058,363		
Water discharge (m³)										
Cement										
					4,254,480	4,021,544	5,731,298	4,419,705		
					188,232	181,956	235,768	198,613		
					-	-	-	-		
					18,814	36,149	50,683	32,885		
		303-4								
Concrete										
					104,214	75,487	34,284	1,485		
					1,973	6,072	5,179	2,857		
					-	-	-	-		
					10,104	14,562	34,809	30,237		

	Argos	GCCA	GRI	SASB	DJSI	2017	2018	2019	2020	Goal 2030	Comments
Aggregates											
Discharge to surface sources						38,525	26,111	232	189		
Discharge to groundwater sources						-	123	114	57		
Discharge to the sea						-	-	-	-		
Discharge to sewerage system						262	-	-	-		
Electricity generation											
Discharge to surface sources						21,234	4,202	-	-		
Discharge to groundwater sources			303-4			2,901	-	-	-		
Discharge to the sea						-	-	-	-		
Discharge to sewerage system						-	-	-	-		
Company											
Discharge to surface sources						4,418,453	4,127,344	5,765,814	4,421,379		
Discharge to groundwater sources						193,107	188,151	241,061	201,527		
Discharge to the sea						-	-	-	-		
Discharge to sewerage system						29,180	50,712	85,492	63,122		
Total water discharge		GCCA				4,640,740	4,366,207	6,092,367	4,686,028		
% of reused and/ or recycled water for cement						95.8 %	126.0 %	120 %	144 %		
% of reused and/ or recycled water for concrete						16.9 %	16.1 %	19 %	19 %		
% of reused and/ or recycled water for Aggregates	A-A2			EM-CM-140a.1		91.3 %	116.2 %	270 %	6 %		
% of reused and/ or recycled water for Electricity generation						5.8 %	23.0 %	4281 %	5269 %		
% of reused and/ or recycled water for Company						74%	94%	99 %	110 %		
Water consumption (m³)											
Water consumption Cement						5,375,868	3,461,806	3,578,111	2,830,992		
Water consumption Concrete						2,312,759	2,165,037	2,030,853	1,879,596		
Water consumption Aggregates		GCCA	303-5			339,911	280,641	231,595	202,824		
Water consumption Electricity generation						1,167,679	897,844	679,010	557,739		
Water consumption Company					2.3.4	9,196,217	6,805,329	6,519,570	5,471,151		
Specific water consumption											
Cement (L/t cement)						413	259	264	235	245	
Concrete (L/m ³ Concrete)	A-A1					223	228	215	237	216	
Aggregates (L/t Aggregates)						147	109	100	109		
BIODIVERSITY											
% of active and inactive quarries within, adjacent to, or containing protected areas or areas of high biodiversity value with biodiversity management plan in place	A-B1			EM-CM-160a.2		59.0 %	71.0 %	68 %	77 %	85 %	
% Released areas rehabilitated at active and inactive quarries	A-B2					80.2 %	84.8 %	87 %	81 %	90 %	
% of active Facilities within, adjacent to, or containing protected areas or areas of high biodiversity value	A-BI3			2.4.2		63.0 %	67.0 %	66 %	68 %		

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# of active Facilities within, adjacent to, or containing protected areas or areas of high biodiversity value			304-1		2.4.2	30	30	29	22		
% of active and inactive quarries that have an established closure plan		A-BI4				75.0 %	89.0 %	78 %	88 %		
% of active quarries that have an established closure plan		GCCA				88.4 %	90.9 %	93 %	95 %		
% of active quarries within, adjacent to, or containing protected areas or areas of high biodiversity value		GCCA				44.2 %	45.5 %	41 %	33 %		
% of active quarries within, adjacent to, or containing protected areas or areas of high biodiversity value with biodiversity management plan in place		GCCA				73.7 %	80.0 %	78 %	85 %		
Species on the IUCN Red List and species on the National Conservation List that inhabit areas affected by operations											
Total of species						72	77	160	170		
In critical danger			304-4			5	5	15	15		
In danger						9	10	21	20		
Vulnerable						25	26	55	60		
Nearly threatened						6	6	11	12		
Minor concern						27	30	58	63		

SUSTAINABLE CONSTRUCTION

Revenues obtained from products with sustainability characteristics. (USD)	A-CS1					124,360,820	177,739,329	268,213,269	283,751,623	800,000,000	[102-48] The figures for the years 2017, 2018 and 2019 were restated because of the new definition of the green solutions portfolio established by the company.
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ENVIRONMENTAL INVESTMENTS (COP)

Capital investments						84,091,140,058	148,044,654,844	110,091,804,288	27,474,410,160		
Operating expenses						19,023,904,573	20,591,934,453	26,651,481,969	26,513,324,526		
Total expenses (capital investments + operating expenses)					2.2.3	103,115,044,631	168,636,589,297	136,743,286,257	53,987,734,686		
Savings, avoided costs, income, tax incentives						14,355,352,241	6,975,675,702	10,253,198,055	17,325,102,725		