

INTEGRATED REPORT

ENVIRONMENTAL

CLIMATE CHANGE

	ARGOS	GCCA	GRI	SASB	DJSI	2022	2023	2024	2025	Goal 2030
▣ Cement										
Total direct CO2 emissions - gross (tCO2)			305-1	EM-CM-110a.1		3,466,090.00	4,483,538.00	4,209,505.00	3,903,743.05	
Indirect CO2 emissions (Scope 2 by location method) (tCO2)			305-2	CSA	98,848.00	86,722.00	126,945.00	85,848.68		
Indirect GHG emissions (Scope 2 by market method) (tCO2)			305-2	CSA	81,083.00	68,173.00	70,743.00	57,307.81		
Direct and Indirect (based on location method) GHG Emissions from Cement (tCO2e)	A-EC6			CSA	4,767,938.00	4,570,259.00	4,336,350.00	3,989,591.36		
Direct and Indirect (based on market method) GHG emissions from Cement (tCO2e)	A-EC6			CSA	4,750,174.00	4,551,710.00	4,280,248.00	3,961,050.49		
Gross Specific Direct CO2 Emissions (kg CO2 / t)		GCCA	305-4			616.00	610.00	612.00	589.70	
Net Specific Direct CO2 Emissions (kg CO2 / t)		A-EC1	GCCA			612.00	604.00	605.00	583.22	514.00
Specific Indirect GHG Emissions (Scope 2 by "Market" Method) (kg CO2 / t)		A-EC5				10.70	9.27	10.28	8.66	7.00
Total CO2 emissions - net (tCO2)		GCCA				4,633,646.54	4,438,093.68	4,161,738.74	3,860,844.62	
Reduction of specific CO2 emissions (Scope 2 by "Market" method) compared to the base year 2021 (%) (%)						-18.00 %	-29.00 %	-22.00 %	-34.01 %	
▣ Concrete										
Direct GHG emissions (Scope 1) (tCO2)			305-1	EM-CM-110a.1		34,000.00	30,917.00	27,673.00	21,791.79	
Indirect GHG emissions (Scope 2) - market method (tCO2)			305-2			1,218.00	817.00	1,167.00	679.05	
Indirect GHG emissions (Scope 2) - location method (tCO2)			305-2			1,218.00	923.00	1,460.00	744.94	
Specific Direct CO2 Emissions (kgCO2/m3 concrete)			305-4			11.50	10.20	11.30	11.11	
▣ Aggregates										
Direct GHG emissions (Scope 1) (tCO2)			305-1	EM-CM-110a.1		5,209.00	5,204.00	6,755.00	1,834.93	
Indirect GHG emissions (Scope 2) - market method (tCO2)			305-2			555.00	287.00	145.00	134.09	
Indirect GHG emissions (Scope 2) - location method (tCO2)			305-2			555.00	365.00	536.00	233.03	
Direct CO2 Emission Intensity in Aggregate Production (kgCO2/t)			305-4			2.45	2.56	4.20	1.49	
▣ Self-generation										
Direct GHG emissions (Scope 1) (tCO2)			305-1	EM-CM-110a.1		454,133.80	429,566.99	373,683.00	237,692.53	
Intensity of direct CO2 emissions in electricity generation (kgCO2/MWh)			305-4			987.58	984.35	1,018.00	872.95	
▣ Company										
Total direct emissions (Scope 1) (tCO2)			305-1	EM-CM-110a.1	CSA	5,162,442.00	4,949,226.00	4,617,615.00	4,165,062.41	
Total indirect emissions (Scope 2 by location method) (tCO2)			305-2		CSA	100,621.00	88,010.00	128,842.00	86,826.65	
Total direct and indirect emissions (by location method) (tCO2)	A-EC6					5,263,063.00	5,037,236.00	4,746,457.00	4,251,889.05	
Total indirect emissions (Scope 2 by "market" method) (tCO2)			305-2		CSA	82,857.00	69,332.00	72,055.00	58,120.94	
Total direct and indirect emissions (by "market" method) (tCO2)	A-EC6					5,245,299.00	5,018,558.00	4,689,670.00	4,223,183.35	
Total other indirect GHG emissions (Scope 3) (tCO2e)			305-3		CSA	4,336,265.00	3,750,964.00	3,177,444.00	3,331,466.68	
Percentage covered by emission limitation regulations (%)				EM-CM-110a.1		0.73 %	0.75 %	1.39 %	37.09 %	

ENERGY

	ARGOS	GCCA	GRI	SASB	DJSI	2022	2023	2024	2025	Goal 2030
▣ Energy consumption										
▣ Cement										
Total energy consumption in Cement (GJ)			302-1			25,174,658.75	24,198,541.40	21,562,072.20	19,383,421.00	
Primary energy from non-renewable sources (GJ)			302-1			36,496,028.18	34,059,307.00	18,044,533.00	16,065,814.00	
Coal (GJ)			302-1			25,626,426.03	21,283,072.50	15,033,096.49	13,626,534.00	
Natural gas (GJ)			302-1			7,246,010.78	8,333,360.62	587,938.43	320,630.00	
Petroleum (GJ)			302-1			2,807,538.09	3,198,835.77	1,888,354.58	1,690,459.00	
Fuel oil (GJ)			302-1			148,070.73	118,843.84	75,109.50	69,295.00	
Diesel (GJ)			302-1			659,164.79	768,850.00	440,630.96	344,600.00	
Gasoline (GJ)			302-1			5,608.72	0.00	134.40	550.00	
Other (GJ)			302-1			3,209.04	234,940.00	19,268.27	5,747.00	
Primary energy from renewable sources (GJ)			302-1	EM-CM-130a.1		629,853.85	517,136.00	58,599.83	34,003.00	
Biomass (GJ)			302-1			629,853.85	517,136.00	58,599.83	34,003.00	
Primary energy from alternative sources (GJ)			302-1			1,526,596.91	1,970,558.00	673,722.00	617,187.00	
Tyres (GJ)			302-1			237,102.08	389,319.00	323,920.27	250,938.00	
Fuel derived from waste - RDF including plastic material (GJ)			302-1			358,527.44	516,850.00	123,105.24	103,151.00	
Mixed industrial waste (GJ)			302-1			796,427.00	1,034,759.00	187,947.66	212,140.00	
Waste oils and other (GJ)			302-1			134,540.00	29,630.00	38,748.68	59,997.00	
Energy consumed from self-generated thermoelectric power (GJ)			302-1			1,583,847.54	1,359,550.00	1,102,176.50	872,188.00	
Consumption of electricity purchased from the grid (GJ)			302-1			4,296,269.40	4,267,433.00	1,683,041.38	1,794,230.00	
Total thermal energy (GJ)			302-1			38,652,478.94	36,547,000.00	18,776,854.32	16,717,003.00	
Total electrical energy (GJ)			302-1			128,716.94	5,036,082.00	2,791,178.88	2,666,414.00	
Specific Caloric Consumption for Clinker Production (MJ/t.Clinker)	GCCA					4,195.45	4,086.62	3,896.67	3,683.00	
▣ Concrete										
Primary energy from non-renewable sources (GJ)			302-1	EM-CM-130a.1		1,010,554.17	921,534.00	373,452.06	340,813.39	
Diesel oil (GJ)			302-1			1,010,554.17	921,534.00	373,452.06	319,650.35	
Other fuels (GJ)			302-1			0.00	0.00	0.00	0.00	
Purchased electricity consumption (GJ)			302-1			107,096.51	97,198.00	23,682.60	21,163.04	
Total energy consumption in concrete (GJ)			302-1			485,546.14	444,367.64	397,134.66	340,813.00	
Total thermal energy (GJ)			302-1			1,010,554.17	921,534.00	373,452.06	319,650.35	
Total electrical energy (GJ)			302-1			107,096.51	97,198.00	23,682.60	21,163.00	
▣ Aggregates										
Primary energy from non-renewable sources (GJ)			302-1	EM-CM-130a.1		70,297.49	70,234.00	91,158.00	32,211.97	
Fuel oil (GJ)			302-1			48.27	0.00	0.00	0.00	
Gasoline (GJ)			302-1			0.00	0.00	2.01	0.00	
Diesel oil (GJ)			302-1			70,207.94	70,234.00	91,155.89	24,763.00	
Purchased electricity consumption (GJ)			302-1			12,494.87	11,093.00	8,865.24	7,449.00	
Total aggregate energy consumption (GJ)			302-1			82,792.36	81,327.00	100,023.14	32,212.00	
Total thermal energy (GJ)			302-1			70,297.49	70,234.00	91,157.90	24,763.00	
Total electrical energy (GJ)			302-1			12,494.87	11,093.00	8,865.24	7,449.00	
▣ Self-generation										
Primary energy from non-renewable sources (GJ)			302-1	EM-CM-130a.1		5,703,431.48	5,308,527.00	4,474,551.00	2,842,357.00	
Coal (GJ)			302-1			3,372,935.73	3,502,222.00	2,992,761.00	1,960,809.00	
Fuel oil (GJ)			302-1			128,746.87	138,216.86	452,538.87	215,366.12	
Diesel (GJ)			302-1			0.00	0.00	6.00	0.00	
Natural gas consumption (GJ)			302-1			2,209,708.89	2,006,306.00	1,481,784.00	881,548.00	
Total energy consumption in power generation (GJ)			302-1			5,703,431.48	5,308,527.00	4,474,551.00	2,842,357.00	
Energy sold (GJ)			302-1			47,578.19	137,325.42	150,504.00	73,823.00	
▣ Company										
Total company heat energy consumption (GJ)			302-1			28,202,355.69	26,996,319.13	23,716,014.84	19,903,773.44	
Total electrical energy consumption company (GJ)			302-1			1,660,225.01	1,676,894.01	1,715,589.22	1,822,842.34	
Total energy consumption within the company (GJ)			302-1	EM-CM-130a.1		29,815,002.51	28,535,887.71	25,281,099.67	21,652,792.56	
Electricity sold to the grid (GJ)			302-1			47,578.19	137,325.00	150,504.39	73,823.22	
Total non-renewable energy consumption (MWh)				CSA	8,171,351.44	7,788,419.25	6,569,989.37	5,799,298.96		
Total renewable energy consumption (MWh)				CSA	110,554.36	138,216.86	452,538.87	215,366.12		
Total energy consumption (MWh)				CSA	8,281,945.80	7,926,636.11	7,022,528.25	6,014,665.08		
Energy consumed that was supplied from grid electricity (%)				EM-CM-130a.1		5.57 %	5.88 %	6.79 %	8.41 %	
Energy consumed that came from alternative sources, in terms of its energy content (%)				EM-CM-130a.1		2.13 %	2.50 %	2.90 %	3.02 %	
Alternative fuels rate (%)		GCCA				4.08 %	5.32 %	3.28 %	3.28 %	
Rate of biomass as fuel (%)		GCCA				1.69 %	1.84 %	0.82 %	0.64 %	
Energy consumed that is renewable energy (%)				EM-CM-130a.1		1.34 %	1.74 %	3.55 %	3.58 %	
▣ Energy (%)										
▣ Cement										
Coal (%)						74.16 %	59.58 %	81.68 %	83.05 %	
Natural gas (%)						14.15 %	23.71 %	3.20 %	1.99 %	
Petroleum (%)						8.23 %	9.20 %	10.57 %	10.57 %	
Diesel (%)						0.03 %	0.01 %	0.02 %	0.04 %	
Fuel oil (%)						0.14 %	0.35 %	0.43 %	0.43 %	
Specific caloric consumption of clinker production (Kcal/kg clinker)						1,002.07	976.07	930.75	879.62	
Substitution of heat consumption of fossil fuels with alternative fuels " Alternative fuels rate (%)	A-ENE1			CSA	3.00 %	3.60 %	4.10 %	3.92 %	20.00 %	
Alternative fuels rate (%)		GCCA				2.03 %	5.32 %	3.28 %	3.28 %	
Rate of biomass as fuel (%)		GCCA				0.97 %	1.84 %	0.82 %	0.64 %	

WATER

Water withdrawal from surface water sources (m3/year)		303-3		88,395.80	21,171.44	14,990.62	13,948.45	
Groundwater withdrawal (m3/year)		303-3		146,516.11	146,368.85	106,696.98	118,526.76	
Rainwater withdrawal (m3/year)		303-3		44,254.51	28,329.13	22,727.82	34,288.76	
Municipal or other water companies water supply (m3/year)		303-3		394,161.99	427,442.11	386,251.38	297,204.12	
▣ Aggregates								
Total water withdrawal in aggregate production (m3/year)				228,923.11	172,864.82	88,393.82	29,965.55	
Water withdrawal from surface water sources (m3/year)		303-3		223,434.88	172,072.01	87,699.59	29,516.87	
Groundwater withdrawal (m3/year)		303-3		376.02	232.02	363.68	269.58	
Rainwater withdrawal (m3/year)		303-3		2,385.00	0.00	0.00	0.00	
Municipal or other water companies water supply (m3/year)		303-3		2,727.21	470.79	303.56	179.10	
▣ Self-generation								
Total water withdrawal in self-generation (m3/year)				768,671.00	1,182,949.40	1,309,739.00	792,645.10	
Water withdrawal from surface water sources (m3/year)		303-3		768,671.00	1,182,949.40	1,309,739.00	792,645.10	
Groundwater withdrawal (m3/year)		303-3		0.00	0.00	0.00	0.00	
Rainwater withdrawal (m3/year)		303-3		0.00	0.00	0.00	0.00	
Municipal or other water companies water supply (m3/year)		303-3		0.00	0.00	0.00	0.00	
▣ Company								
Water withdrawal from surface water sources (m3/year)		303-3		4,206,636.34	3,264,463.78	3,472,407.01	2,694,260.54	
Groundwater withdrawal (m3/year)		303-3		432,551.75	366,152.02	332,309.83	293,755.19	
Rainwater withdrawal (m3/year)		303-3		134,455.46	155,830.70	128,678.11	137,120.28	
Municipal or other water companies water supply (m3/year)		303-3		1,168,594.68	1,251,237.31	992,306.75	760,733.19	
Total water withdrawal company (m3/year)		303-3		5,933,238.23	5,043,676.86	4,926,675.81	3,885,869.20	
Total Water withdrawal (Ml/Nm3)		303-3		5,933.24	5,043.68	4,926.68	3,885.87	
▣ Water withdrawal by source in water-stressed areas								
▣ Self-generation								
Water withdrawal in areas of water stress Self-generation (%)		303-3	EM-CM-140a.1	0.00	0.00	0.00	0.00	
▣ Company								
Water withdrawal from surface sources in areas of water stress (m3/year)		303-3		0.00	0.00	0.00	0.00	
Groundwater withdrawal in areas of water stress (m3/year)		303-3		0.00	0.00	0.00	0.00	
Rainwater withdrawal in areas of water stress (m3/year)		303-3		0.00	0.00	0.00	0.00	
Supply of municipal water or water from other water companies in areas of water stress (m3/year)		303-3		0.00	0.00	0.00	0.00	
Total water abstracted in water-stressed areas (m3/year)		303-3	EM-CM-140a.1	0.00	0.00	0.00	0.00	
▣ Water discharge per destination in all areas								
▣ Cement								
Total water discharge - Cement (m3/year)		303-4		1,662,247.13	673,760.26	1,337,738.09	504.22	
Discharges to surface water (m3/year)		303-4		1,498,540.22	654,919.34	1,324,872.98	490,185.23	
Discharges to the ground (m3/year)		303-4		44,465.32	17,613.02	11,744.41	12,156.53	
Discharges to sewer (m3/year)		303-4		172.60	0.00	0.00	0.00	
Discharges to third party treatment systems (m3/year)		303-4		119,067.99	1,227.90	1,120.70	1,876.80	
▣ Concrete								
Total water discharge - Concrete (m3/year)		303-4		16,227.11	12,776.50	10,438.77	10,267.09	
Discharge to surface water (m3/year)		303-4		3,455.75	774.42	790.28	807.64	
Discharges to the ground (m3/year)		303-4		2,752.09	2,826.50	1,305.00	1,501.53	
Discharges to sewer (m3/year)		303-4		4,259.46	5,112.10	2,838.66	5,368.08	
Discharges to third party treatment systems (m3/year)		303-4		5,759.81	3,963.48	5,504.83	2,589.85	
▣ Aggregates								
Water discharge by destination in all areas (m3/year)		303-4		443.86	496.90	516.16	447.58	
Discharge to surface water (m3/year)		303-4		76.83	158.00	157.67	175.59	
Discharges to the ground (m3/year)		303-4		15.55	63.00	17.00	0.00	
Discharges to sewer (m3/year)		303-4		0.00	0.00	0.00	0.00	
Discharges to third party treatment systems (m3/year)		303-4		351.48	275.90	341.49	271.59	
▣ Self-generation								
Total water discharge - Self-generation (m3/year)		303-4		442.00	217.73	0.00	42.86	
Discharge to surface water (m3/year)		303-4		442.00	217.73	0.00	0.00	
Discharges to the ground (m3/year)		303-4		0.00	0.00	0.00	0.00	
Discharges to sewer (m3/year)		303-4		0.00	0.00	0.00	0.00	
Discharges to third party treatment systems (m3/year)		303-4		0.00	0.00	0.00	42.86	
▣ Company								
Discharge to surface water (m3/year)		303-4		1,502,514.80	656,069.49	1,325,820.93	491,168.86	
Discharges to the ground (m3/year)		303-4		47,232.96	20,602.52	13,066.41	13,658.06	
Discharges to sewer (m3/year)		303-4		4,433.06	5,112.10	5,504.83	5,368.08	
Discharges to third party treatment systems (m3/year)		303-4		125,179.28	5,467.28	4,300.86	4,781.10	
Total water discharge - Company (m3/year)		303-4		1,679,360.10	687,251.39	1,348,693.03	514,976.10	
▣ Water discharge by destination in water-stressed areas								
▣ Company								
Discharge of water by destination to water-stressed areas (m3/year)		303-4		0.00	0.00	0.00	0.00	
Discharges to surface waters in areas of water stress (m3/year)		303-4		0.00	0.00	0.00	0.00	
Discharges to ground in water stress areas (m3/year)		303-4		0.00	0.00	0.00	0.00	
Discharges to sewers in water stress areas (m3/year)		303-4		0.00	0.00	0.00	0.00	
Discharges to third party treatment systems (m3/year)		303-4		0.00	0.00	0.00	0.00	
▣ Water consumption								
▣ Cement								
Water consumption (m3/year)		GCCA	303-5	2,600,068.59	2,390,790.84	1,660,148.09	2,100,431.90	
Water consumption in water stressed areas (m3/year)		GCCA	303-5	0.00	0.00	0.00	0.00	
Percentage of water consumption in water-stressed areas (%)		GCCA	303-5	0.00	0.00	0.00	0.00	
▣ Concrete								
Water consumption in concrete (m3/year)		GCCA	303-5	EM-CM-140a.1	657,101.30	610,535.03	520,218.03	453,700.99
Percentage of water consumption in water-stressed areas (%)		GCCA	303-5	EM-CM-140a.1	0.00	0.00	0.00	0.00
Water consumption in water-stressed areas concrete (m3/year)		GCCA	303-5	EM-CM-140a.1	0.00	0.00	0.00	0.00
▣ Aggregates								
Water consumption in aggregates (m3/year)		GCCA	303-5	EM-CM-140a.1	228,479.25	172,367.92	87,877.66	29,517.97
Aggregate water consumption in water stress areas (%)		GCCA	303-5	EM-CM-140a.1	0.00	0.00	0.00	0.00
▣ Self-generation								
Water consumption - self-generation (m3/year)		GCCA	303-5	EM-CM-140a.1	768,229.00	1,182,731.67	1,309,739.00	792,645.10
Water consumption in areas of water stress self-generation (%)		GCCA	303-5	EM-CM-140a.1	0.00	0.00	0.00	0.00
Water consumption in areas of water stress self-generation (m3/year)		GCCA	303-5	EM-CM-140a.1	0.00	0.00	0.00	0.00
▣ Company								
Water consumption in areas of water stress (%)		GCCA	303-5	EM-CM-140a.1	0.00	0.00	0.00	0.00
Company water consumption (m3/year)		GCCA	303-5	EM-CM-140a.1	CSA	4,356,425.47	3,577,982.79	3,076,295.96
Water consumption in areas of water stress company (m3/year)		GCCA	303-5	EM-CM-140a.1		0.00	0.00	0.00
▣ Specific water consumption and withdrawal								
▣ Cement								
Specific freshwater withdrawal (L/m3)		A-A3		545.64	399.55	420.04	377.12	396.00
Specific water consumption - Cement (L/t)		A-A1		306.62	291.05	215.60	278.79	
Specific Water Consumption - GCCA (L/t(materialcementante))		A-A1		0.00	243.14	241.21	317.29	
▣ Concrete								
Specific freshwater withdrawal (L/m3)		A-A3		211.45	202.28	207.56	191.42	227.00
Specific Water Consumption of Concrete (L/m3)		A-A1		222.11	201.97	212.58	202.12	
▣ Aggregates								
Specific freshwater withdrawal (L/t)		A-A3		110.91	85.09	55.84	24.31	63.00
Specific water consumption in aggregates (L/t)		A-A1		111.86	84.85	54.72	23.95	
▣ Recycled or reused water								
▣ Cement								
Recycled or reused water in cement (m3/year)		A-A2		EM-CM-140a.1	10,297,245.04	9,746,718.41	3,472,736.70	3,123,225.39
Percentage of recycled or reused water in cement (%)		A-A2		EM-CM-140a.1	121.74	157.85	115.84	120.16
▣ Concrete								
Recycled or used water in concrete (m3/year)		A-A2		429,166.16	356,644.84	282,578.31	202.12	
Percentage of recycled or reused water in concrete (%)		A-A2		59.57	57.22	53.25	54.93	
▣ Aggregates								
Recycled or reused water in aggregates (m3/year)		A-A2		383,628.56	270,939.56	250,801.96	50,181.66	
Percentage of water recycled or reused in aggregates (%)		A-A2		167.58	156.73	163.73	167.46	
▣ Self-generation								
Total water recycled or reused in self-generation (m3/year)		A-A2		23,417,891.00	23,276,791.00	22,140,840.00	21,771,903.00	
Percentage of water recycled or reused in self-generation (%)		A-A2		3,046.54	1,967.69	1,690.48	2,746.74	
▣ Company								
Water recycled or reused in company (%)		A-A2		EM-CM-140a.1	100.74	108.35	86.26	88.22
Water recycled or reused in company (m3/year)		A-A2		EM-CM-140a.1	29,385,673.01	28,741,633.00	26,146,956.97	3,428,272.63

OTHER EMISSIONS											
		ARGOS	GCCA	GRI	SASB	DJSI	2022	2023	2024	2025	Goal 2030
▣ Particulate Matter											
▣ Cement											
Absolute Particulate Matter Emissions (t/year)				206.7	EM-CM-130a.1	824.42	484.06	542.37	442.29		