

305-1	Direct (scope 1) GHG emissions/ Emisiones directas de GEI (Alcance 1)
305-2	Energy indirect (scope 2) GHG emissions/ Emisiones indirectas de GEI (Alcance 2)

MEASUREMENT BASELINE YEAR

DIRECT AND INDIRECT GHG EMISSIONS FROM CEMENT	2018	2019	2020	2021
305-1/ EM-CM-110a.1 Direct GHG emissions tCO ₂ /305-1 Emisiones directas de GEI tCO ₂	7.794.246	8.186.930	7.281.478	8.291.874
305-2 Indirect GHG Emissions tCO ₂ (location based method) / Emisiones indirectas de GEI tCO ₂	436.090	423.834	399.728	408.558
305-2 Indirect GHG Emissions tCO ₂ (market based method) / Emisiones indirectas de GEI tCO ₂				386.513
Direct and Indirect (location based method) GHG Emissions from Cement tCO ₂	8.230.336	8.619.764	7.681.206	8.700.432
Direct and Indirect (market based method) GHG Emissions from Cement tCO ₂				8.678.387
EM-CM-110a.1 Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations				0,61%

EXPLAIN WHAT STANDARDS, METHODOLOGIES AND ASSUMPTIONS WERE USED IN THE CALCULATION, THE SOURCE OF THE FACTORS USED, AND THE LINK FROM WHERE THE INFORMATION WAS TAKEN

Measurement baseline year: 2006

- **Greenhouse gases included in the calculation:** this indicator includes only CO₂ emissions, since emissions of other greenhouse gases are not significant in the cement production process. In addition, the CO₂ and Energy Accounting and Reporting Standard for the Cement Industry is limited only to the CO₂ inventory (see: "The Cement CO₂ and Energy Protocol - CO₂ and Energy Accounting and Reporting Standard for the Cement Industry. World Business Council for Sustainable Development (WBCSD) - Cement Sustainability Initiative (CSI), 2011. Available at: <http://www.cement-co2-protocol.org/v3/>).

- **Approach for the consolidation of emissions:** an operational control approach was considered to calculate these emissions.

- **Standards, methodologies and assumptions used for the calculation:**

- The methodology used to calculate direct (scope 1) and indirect (scope 2 by location based method) emissions is the one determined by the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD): "The Cement CO₂ and Energy Protocol - CO₂ and Energy Accounting and Reporting Standard for the Cement Industry" (2011).

- The methodology used to calculate indirect emissions (scope 2 by market based method) is the one determined by the World Resources Institute (WRI): "GHG Protocol Scope 2 Guidance" (2015). Available at: https://ghgprotocol.org/scope_2_guidance

- **Direct emissions (scope 1):** are those that come from sources that are owned or controlled by the reporting entity. In cement plants, direct CO₂ emissions are generated by the following sources: 1. Calcination of carbonates and combustion of organic carbon contained in raw materials; 2. Consumption of fuels in the clinkerization kiln; 3. Consumption of fuels in equipment other than the clinkerization kiln; 4. Consumption of fuels for the generation of energy in situ.

- **Indirect emissions (scope 2):** are those caused by the consumption of external production of electricity.

Gross direct emissions are reported for cement operations and correspond to the total direct emissions generated by raw materials, fuels for the clinkerization kiln and fuels for equipment other than the kiln; CO₂ is excluded from the generation of energy in situ.

Biogenic CO₂ emissions are excluded (those of biomass combustion) since they are considered neutral.

- **Source of CO₂ emission factors for each fuel:** "CO₂ and Energy Accounting and Reporting Standard for the Cement Industry - The Cement CO₂ and Energy Protocol". WBCSD - CSI (2011). Available at: <http://www.cement-co2-protocol.org/v3/>

- **Source of CO₂ emission factors due to electric power generation in each country, except for Colombia and the United States:** "CO₂ emissions from fuel combustion - Highlights". International Energy Agency - IEA, 2013 Edition.

- **Source of CO₂ emission factors due to electric power generation in Colombia:** Resolution 000382 of November 11, 2021 of the Energy Mining Planning Unit - UPME (for its acronym in Spanish), updated the emission factor of the National Interconnected System for the year 2020 for inventories of emissions of greenhouse gases (GHG) and GHG mitigation projects. Available in: <https://www1.upme.gov.co/siame/Paginas/calculo-factor-de-emision-de-Co2-del-SIN.aspx>

- **Source of CO₂ emission factors due to electric power generation in the United States:** The emission factors reported by the EPA (Environmental Protection Agency) in the Emissions & Generation Resource Integrated Database (eGRID) were used, for each of the states of this country. The latest factors published by the EPA were calculated with information from 2020. Available at: <https://www.epa.gov/egrid/summary-data>

- **Source of CO₂ emission factors for scope 2 (market based method):** for Rioclaro cement plant (Colombia) the CO₂ emission factor was supplied by Empresas Públicas de Medellín (EPM) ESP in its I-REC 2021 certificate. EPM is one of power supplier for this plant, specifically of hydro energy. For Piedras Azules cement plant (Honduras) the CO₂ emission factor was supplied by Celsia Honduras, which is one power supplier for this plant. Celsia Honduras supplies energy to Piedras Azules cement plant from its solar farm.

- **Selection of the base year:** The base year for measurement is 2006 given that the integration of the different cement companies was completed in that year, thus giving rise to Cementos Argos. Therefore, consolidated information on the production and flow of materials and energy to calculate emissions is available from that year.

DIRECT AND INDIRECT GHG EMISSIONS FROM CONCRETE	2018	2019	2020	2021
305-1 Direct GHG emissions tCO ₂ / Emisiones directas de GEI tCO ₂	114.944	126.796	72.026	77.635
305-2 Indirect GHG Emissions tCO ₂ / Emisiones indirectas de GEI tCO ₂	14.968	12.737	14.041	10.696
Direct and Indirect GHG Emissions from Cement tCO ₂	129.912	139.533	86.067	88.331

EXPLAIN WHAT STANDARDS, METHODOLOGIES AND ASSUMPTIONS WERE USED IN THE CALCULATION, THE SOURCE OF THE FACTORS USED, AND THE LINK FROM WHERE THE INFORMATION WAS TAKEN

- **Greenhouse gases included in the calculation:** only CO₂ emissions were included in this indicator.
- **Approach for the consolidation of emissions:** An operational control approach was considered to calculate these emissions.
- **Standards, methodologies and assumptions used for the calculation:** the methodology used to calculate direct and indirect emissions is the one determined by the Corporate Accounting and Reporting Standard - The Greenhouse Gas Protocol, of the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) (2004).
- **The following equation was taken into account for the calculation of direct emissions in concrete operations:** Direct concrete emissions = Fuel consumption * Lower calorific value of fuel * CO₂ emission factor associated with fuel.
- **The following equation was taken into account for the calculation of indirect emissions in concrete operations (scope 2 by location based method):** Indirect concrete emissions = Consumption of electric power purchased from the national grid of each country * CO₂ emission factor of the national electricity grid of each country. Indirect emissions (scope 2) are those caused by the consumption of electric power purchased from the national electricity grid.
- **Source of CO₂ emission factors for each fuel:** "CO₂ and Energy Accounting and Reporting Standard for the Cement Industry - The Cement CO₂ and Energy Protocol". WBCSD - CSI (2011). Available at: <http://www.cement-co2-protocol.org/v3/>.
- **Source of CO₂ emission factors due to electric power generation in each country, except for Colombia and the United States:** "CO₂ emissions from fuel combustion - Highlights". International Energy Agency - IEA, 2013 Edition.
- **Source of CO₂ emission factors due to electric power generation in Colombia:** Resolution 000382 of November 11, 2021 of the Energy Mining Planning Unit - UPME (for its acronym in Spanish), updated the emission factor of the National Interconnected System for the year 2020 for inventories of emissions of greenhouse gases (GHG) and GHG mitigation projects. Available in: <https://www1.upme.gov.co/siame/Paginas/calculo-factor-de-emision-de-Co2-del-SIN.aspx>
- **Source of CO₂ emission factors due to electric power generation in the United States:** The emission factors reported by the EPA (Environmental Protection Agency) in the Emissions & Generation Resource Integrated Database (eGRID) were used, for each of the states of this country. The latest factors published by the EPA were calculated with information from 2020. Available at: <https://www.epa.gov/egrid/summary-data>.

DIRECT GHG EMISSIONS FROM ELECTRICITY	2018	2019	2020	2021
305-1 Direct GHG emissions t CO ₂ - Electricity	384.307	395.896	416.468	415.300

EXPLAIN WHAT STANDARDS, METHODOLOGIES AND ASSUMPTIONS WERE USED IN THE CALCULATION, THE SOURCE OF THE FACTORS USED, AND THE LINK FROM WHERE THE INFORMATION WAS TAKEN

- **Greenhouse gases included in calculation:** only CO₂ emissions were included in this indicator.
- **Approach to the consolidation of emissions:** an operational control approach to calculate emissions was considered.
- **Standards, methodologies and assumptions used for the calculation:** The methodology used to calculate direct emissions is determined by the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD): "The Cement CO₂ and Energy Protocol - CO₂ and Energy Accounting and Reporting Standard for the Cement Industry" (2011). Available at: <http://www.cement-co2-protocol.org/v3/>
- **The following equation was taken into account for the calculation of direct emissions in on-site power generation operations:** Direct emissions from on-site power generation operations = Fuel consumption * Lower calorific value of fuel * Emission emission factor CO₂ associated with the fuel.
- **Source of CO₂ emission factors for each fuel:** "Accounting and Reporting Standard for CO₂ and Energy for the Cement Industry - Energy and CO₂ Protocol in the Cement Industry". WBCSD - CSI (2011). Available at: <http://www.cement-co2-protocol.org/v3/>

DIRECT AND INDIRECT GHG EMISSIONS FROM AGGREGATES	2018	2019	2020	2021
305-1 Direct GHG emissions tCO ₂ - Agregados	4.899	4.009	2.806	4.275
305-2 Indirect GHG Emissions tCO ₂ / 305-2 Emisiones indirectas de GEI tCO ₂ - Agregados	1.109	752	656	747
Direct and Indirect GHG Emissions from Aggregates tCO ₂	6.007	4.760	3.462	5.022

EXPLAIN WHAT STANDARDS, METHODOLOGIES AND ASSUMPTIONS WERE USED IN THE CALCULATION, THE SOURCE OF THE FACTORS USED, AND THE LINK FROM WHERE THE INFORMATION WAS TAKEN

- **Greenhouse gases included in the calculation:** only CO₂ emissions were included in this indicator.
- **Approach for the consolidation of emissions:** An operational control approach was considered to calculate these emissions.

The Greenhouse Gas Protocol, of the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) (2004).

- **The following equation was taken into account for the calculation of direct emissions in aggregates operations:** Direct aggregates emissions = Fuel consumption * Lower calorific value of fuel * CO₂ emission factor associated with fuel.
- **The following equation was taken into account for the calculation of indirect emissions in aggregates operations:** Indirect aggregates emissions = Consumption of electric power purchased from the national grid of each country * CO₂ emission factor of the national electricity grid of each country.
- **Source of CO₂ emission factors for each fuel:** "CO₂ and Energy Accounting and Reporting Standard for the Cement Industry - The Cement CO₂ and Energy Protocol". WBCSD - CSI (2011). Available at: <http://www.cement-co2-protocol.org/v3/>.
- **Source of CO₂ emission factors due to electric power generation in each country, except for Colombia:** "CO₂ emissions from fuel combustion - Highlights". International Energy Agency - IEA, 2013 Edition.
- **Source of CO₂ emission factors due to electric power generation in Colombia:** Resolution 000382 of November 11, 2021 of the Energy Mining Planning Unit - UPME (for its acronym in Spanish), updated the emission factor of the National Interconnected System for the year 2020 for inventories of emissions of greenhouse gases (GHG) and GHG mitigation projects. Available in: <https://www1.upme.gov.co/siame/Paginas/calculo-factor-de-emision-de-Co2-del-SIN.aspx>

DIRECT AND INDIRECT GHG EMISSIONS COMPANY	2018	2019	2020	2021
(305-1) Total direct emissions tCO ₂ -CEMENTOS ARGOS	8.298.395	8.713.631	7.772.778	8.789.085
(305-2) Total Indirect emissions tCO ₂ (location based method)- CEMENTOS ARGOS	452.167	446.322	414.425	420.000
(305-2) Total Indirect emissions tCO ₂ (market based method)- CEMENTOS ARGOS				397.955
Total Emissions tCO ₂ - CEMENTOS ARGOS (Scope 1 + Scope 2 location based method)	8.750.562	9.159.953	8.187.203	9.209.085
Total Emissions tCO ₂ - CEMENTOS ARGOS (Scope 1 + Scope 2 market based method)				9.187.040

CO₂ emissions - Scope 2

Our consumption of purchased electricity this year increased by around 11% compared to 2020, which is proportional to the increase in cement production, which by its nature is the process that consumes the most purchased electricity in our business.

CO₂ emissions - Scope 2 - calculated under the "Location Based" method, increased by 1%, thanks to the fact that several energy matrices of the electricity grid of the countries where we operate were produced with cleaner sources, allowing to reduce their emission factors per kWh produced.

Additionally, this year we began CO₂ emission - scope 2 measurements using the "Market Based" method in accordance with the recommendations given by the "GHG Protocol Scope 2 Guidance" (2015) to establish our baseline. Under this method, the measurement of CO₂ emissions - scope 2 for 2021 was 397,955 tonne of CO₂. This measurement mechanism yields values that are 5% lower than the "Location Based" calculation, because it considers in its calculation the emission factors of the suppliers that supply us with renewable energy. For example, the calculation included the emission factor provided by the provider EPM (Empresas Públicas de Medellín) in Colombia in its renewable energy certificate, and that of the provider Celsia – Honduras, which has a solar farm that supplies renewable energy to our cement plant - Piedras Azules .

DIRECT AND INDIRECT GHG EMISSIONS COMPANY	2018	2019	2020	2021
Total Emissions tCO ₂ - CEMENTOS ARGOS (Scope 1 + Scope 2 location based method) + Scope 3)	12.330.615	13.488.264	12.340.917	13.336.791
Total Emissions tCO ₂ - CEMENTOS ARGOS (Scope 1 + Scope 2 market based method) + Scope 3)				13.314.746

305-3 Other indirect (Scope 3) GHG emissions										
SOURCES OF SCOPE 3 EMISSIONS	CATEGORY	EVALUATION STATUS	2018	2019	2020	2021	PERCENTAGE OF EMISSIONS CALCULATED USING DATA OBTAINED FROM SUPPLIERS OR VALUE CHAIN PARTNERS	STANDARDS, METHODOLOGIES AND ASSUMPTIONS IN THE CALCULATION, GASES INCLUDED IN THE CALCULATION, AS WELL AS THE SOURCE OF EMISSION FACTORS AND GWP	COMMENTS	
Purchased goods and services	1	Relevant, calculated / Relevante, calculado	2.698.252	3.373.602	3.096.972	2.934.945	0%	<p>From 2016 to 2019 Argos' scope 3 emissions calculations were made with Quantis SUITE 2.0 software from Quantis Enterprise, however this application was withdrawn from the market by Quantis in 2020. Due to this fact, Argos contracted with this same company the development of a customized tool that makes the same quantification as Quantis Suite 2.0. Likewise, the tool developed by Quantis for Argos works under the GHG Protocol methodology "Accounting and Reporting Standard for the Corporate Value Chain (Scope 3)" (World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) (2011), and under the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance" developed by WBCSD (2016).</p> <p>Coverage: Cement, concrete and aggregates operations of the Colombia, Caribbean and Central America and USA regions.</p>	<p>Argos prioritized 5 categories as "Relevant" of the 15 categories that comprise the Scope 3. The prioritization process was based on the results of the study developed by Quantis for Argos, entitled "Calculation of Cementos Argos' GHG Emissions from priority Sources of Scope 3 Emissions", in addition to the guidelines provided by the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance", developed by the WBCSD - CSI (2016).</p> <p>Category 1, Purchased Goods and Services, was one of the 5 relevant categories. Of these 5 categories, Category 1 represented 71% of total Scope 3 emissions in 2021.</p>	
Capital goods/	2	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	<p>Argos prioritized 5 of the 15 categories that compose Scope 3 as relevant; this prioritization process was based on the results of the study developed by Quantis for Argos "Calculation of GHG emissions from Scope 3 prioritized sources of Cementos Argos" and on the guidelines given by the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance" developed by WBCSD - CSI (2016). The relevant categories calculated were:</p> <ul style="list-style-type: none"> -Category 1: Purchased goods and services. -Category 3: Fuel and energy related activities. -Category 4: Upstream transportation and distribution. -Category 6: Business travel. -Category 9: Downstream transportation and distribution. <p>Capital goods (Category 2) was not selected as a relevant category considering the share of these emissions within the total Scope 3 emissions of the company.</p>	

SOURCES OF SCOPE 3 EMISSIONS	CATEGORY	EVALUATION STATUS	2018	2019	2020	2021	PERCENTAGE OF EMISSIONS CALCULATED USING DATA OBTAINED FROM SUPPLIERS OR VALUE CHAIN PARTNERS	STANDARDS, METHODOLOGIES AND ASSUMPTIONS IN THE CALCULATION, GASES INCLUDED IN THE CALCULATION, AS WELL AS THE SOURCE OF EMISSION FACTORS AND GWP	COMMENTS
Fuel and energy related activities	3	Relevant, calculated / Relevante, calculado	575.712	674.332	432.360	523.334	0%	<p>From 2016 to 2019 Argos' scope 3 emissions calculations were made with Quantis SUITE 2.0 software from Quantis Enterprise, however this application was withdrawn from the market by Quantis in 2020. Due to this fact, Argos contracted with this same company the development of a customized tool that makes the same quantification as Quantis Suite 2.0. Likewise, the tool developed by Quantis for Argos works under the GHG Protocol methodology "Accounting and Reporting Standard for the Corporate Value Chain (Scope 3)" (World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) (2011), and under the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance" developed by WBCSD (2016).</p> <p>Coverage: Cement, concrete and aggregates operations of the Colombia, Caribbean and Central America and USA regions.</p>	<p>The company prioritized 5 categories as "Relevant" of the 15 categories that comprise the Scope 3. The prioritization process was based on the results of the study developed by Quantis for Argos, entitled "Calculation of Cementos Argos' GHG Emissions from Priority Sources of Scope 3 Emissions", in addition to the guidelines provided by the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance", developed by the WBCSD - CSI (2016).</p> <p>Category 3, Fuel and Energy-Related Activities, was one of the 5 relevant categories. Of these 5 categories, Category 3 represented 13% of total Scope 3 emissions in 2021.</p>
Upstream transportation and distribution	4	Relevant, calculated / Relevante, calculado	203.439	198.718	383.945	404.253	19%	<p>The carbon footprint for the Colombia region was gathered from Logitrans, the most representative transportation supplier of raw materials and products in process, and from Geodis which is an important supplier of cargo transportation by sea and air.</p> <p>For calculation of the emissions of the other two regions (USA and the Caribbean and Central America) the tool developed for Argos by Quantis was used, which works works under the GHG Protocol methodology "Accounting and Reporting Standard for the Corporate Value Chain (Scope 3)" (World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI), 2011), and under the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance" developed by WBCSD (2016).</p> <p>Coverage: Cement, concrete and aggregates operations of Colombia, Caribbean and Central America and USA regions</p>	<p>Argos prioritized 5 categories as "Relevant" of the 15 categories that comprise the Scope 3. The prioritization process was based on the results of the study developed by Quantis for Argos, entitled "Calculation of Cementos Argos' GHG Emissions from Priority Sources of Scope 3 Emissions", in addition to the guidelines provided by the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance", developed by the WBCSD - CSI (2016). Category 4 (upstream transportation and distribution) is among the 5 relevant categories.</p> <p>Of these 5 categories, Category 4 represented 10% of total Scope 3 emissions in 2021.</p>

SOURCES OF SCOPE 3 EMISSIONS	CATEGORY	EVALUATION STATUS	2018	2019	2020	2021	PERCENTAGE OF EMISSIONS CALCULATED USING DATA OBTAINED FROM SUPPLIERS OR VALUE CHAIN PARTNERS	STANDARDS, METHODOLOGIES AND ASSUMPTIONS IN THE CALCULATION, GASES INCLUDED IN THE CALCULATION, AS WELL AS THE SOURCE OF EMISSION FACTORS AND GWP	COMMENTS
Waste generated in operation	5	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	<p>Argos prioritized 5 of the 15 categories that compose Scope 3 as relevant; this prioritization process was based on the results of the study developed by Quantis for Argos "Calculation of GHG emissions from Scope 3 prioritized sources of Cementos Argos" and on the guidelines given by the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance" developed by the WBCSD-CSI (2016). The relevant categories calculated were:</p> <ul style="list-style-type: none"> -Category 1: Purchased goods and services. -Category 3: Fuel and energy related activities. -Category 4: Upstream transportation and distribution. -Category 6: Business travel. -Category 9: Downstream transportation and distribution. <p>Category 5 (Waste generated in operations) is usually not considered relevant for cement companies.</p>
Business travels	6	Relevant, calculated / Relevante, calculado	1.728	1.252	248	383	85%	<p>The carbon footprint for Colombia and United States regions was collected from the travel agencies that operate the logistics of corporate travel. For calculation of the emissions of the Caribbean and Central America region the Scope 3 Tool developed by Quantis for Argos was used, which works under the GHG Protocol methodology "Accounting and Reporting Standard for the Corporate Value Chain (Scope 3)" (WBCSD) and WRI, 2011), and under the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance" developed by WBCSD (2016).</p> <p>Coverage: Cement, concrete and aggregates operations of COL, CCA and USA regions.</p>	<p>Argos prioritized 5 categories as "Relevant" of the 15 categories that comprise the Scope 3. The prioritization process was based on the results of the study developed by Quantis for Argos, entitled "Calculation of Cementos Argos' GHG Emissions from Priority Sources of Scope 3 Emissions", in addition to the guidelines provided by the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance", developed by the WBCSD - CSI (2016).</p> <p>Category 6, Business Travel, was one of the 5 relevant categories. Of these 5 categories, Category 6 represented 0.01 % of total Scope 3 emissions in 2021.</p>
Employee commuting	7	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	<p>Employee commuting (Category 7) was not selected as a relevant category considering the share of these emissions within the total Scope 3 emissions for the Company.</p>

SOURCES OF SCOPE 3 EMISSIONS	CATEGORY	EVALUATION STATUS	2018	2019	2020	2021	PERCENTAGE OF EMISSIONS CALCULATED USING DATA OBTAINED FROM SUPPLIERS OR VALUE CHAIN PARTNERS	STANDARDS, METHODOLOGIES AND ASSUMPTIONS IN THE CALCULATION, GASES INCLUDED IN THE CALCULATION, AS WELL AS THE SOURCE OF EMISSION FACTORS AND GWP	COMMENTS
Upstream leased assets	8	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	Category 8 (Upstream leased assets) is usually not considered relevant for cement companies.
TOTAL UPSTREAM SCOPE 3 EMISSIONS tCO₂E			3.479.131	4.247.904	3.913.533	3.862.916			
Downstream transportation and distribution	9	Relevant, calculated / Relevante, calculado	100.922	80.407	240.181	264.790	7,7%	<p>For the carbon footprint of Colombia region, information was collected from the companies Transportempo, Imbocar and Vigia, which are representative among the transportation suppliers of finished products.</p> <p>For the calculation of the emissions of the other two regions, the Scope 3 Tool developed by Quantis for Argos was used, which works under the GHG Protocol methodology "Accounting and Reporting Standard for the Corporate Value Chain (Scope 3)" (WBCSD and WRI, 2011), and under the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance" developed by WBCSD (2016).</p> <p>Coverage: Cement, concrete and aggregates operations of Colombia, Caribbean and Central America and USA regions.</p>	<p>Argos prioritized 5 categories as "Relevant" of the 15 categories that comprise the Scope 3. The prioritization process was based on the results of the study developed by Quantis for Argos, entitled "Calculation of Cementos Argos' GHG Emissions from Priority Sources of Scope 3 Emissions", in addition to the guidelines provided by the "Cement Sector Scope 3 GHG Accounting and Reporting Guidance", developed by the WBCSD - CSI (2016). Category 9, Downstream Transportation and Distribution, was prioritized as one of the 5 relevant categories for Argos operations.</p> <p>Of these 5 categories, Category 9 represented 6% of total Scope 3 emissions in 2021.</p>
Processing of sold products	10	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, category 10 (Processing of sold products) is usually not considered relevant for cement companies
Use of sold product	11	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, category 11 (Use of sold products) is usually not considered relevant for cement companies.
End of life treatment of sold products	12	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, Category 12 (End of life treatment of sold products) is usually not considered relevant for cement companies

SOURCES OF SCOPE 3 EMISSIONS	CATEGORY	EVALUATION STATUS	2018	2019	2020	2021	PERCENTAGE OF EMISSIONS CALCULATED USING DATA OBTAINED FROM SUPPLIERS OR VALUE CHAIN PARTNERS	STANDARDS, METHODOLOGIES AND ASSUMPTIONS IN THE CALCULATION, GASES INCLUDED IN THE CALCULATION, AS WELL AS THE SOURCE OF EMISSION FACTORS AND GWP	COMMENTS
Downstream leased assets	13	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, Category 13 (Downstream leased assets) is usually not considered relevant for cement companies.
Franchises	14	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, Category 14 (Franchises)) is usually not considered relevant for cement companies.
Investments	15	Not relevant / No relevante	NA	NA	NA	NA	NA	NA	According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, Category 15 (Investments) is usually not considered relevant for cement companies.
TOTAL DOWNSTREAM SCOPE 3 EMISSIONS			100.922	80.407	240.181	264.790			
TOTAL EMISSIONS OF SCOPE 3 GREENHOUSE GASES tCO ₂ e			3.580.053	4.328.311	4.153.714	4.127.706			

305-4 GHG Emissions intensity/ Intensidad de emisiones de GEI		2018	2019	2020	2021	COMMENTS
CARBON INTENSITY (ENTER ONLY EMISSIONS THAT YOU WANT TO INCLUDE IN THE RATIO)						
INTENSITY OF THE CO ₂ EMISSIONS IN CEMENT PRODUCTION (kg CO ₂ /t CEMENTITIOUS PRODUCTS)		627	638	643	645	Numerator: Direct gross emissions (corresponding to GRI 305-1) Denominator: Cementitious material production. Coverage: Cement operations of the COL, CCA and USA regions.
INTENSITY OF THE CO ₂ EMISSIONS IN THE PRODUCTION OF CONCRETE (kg CO ₂ /m ³ CONCRETE)		12	14	9,09	10,07	Numerator: Direct emissions GRI 305 - 1 Denominator: Concrete production. Coverage: Concrete operations of the COL, CCA and USA regions.
INTENSITY OF THE CO ₂ EMISSIONS IN THE PRODUCTION OF AGGREGATES (kg CO ₂ /t PRODUCT)		2	2	1,51	2,64	Numerator: Direct emissions GRI 305 - 1 Denominator: Aggregates production. Coverage: Concrete operations of the COL and CCA regions.
INTENSITY OF THE CO ₂ EMISSIONS IN ELECTRICITY GENERATION (kg CO ₂ /MWh)		865	865	910	924	Numerator: Direct emissions GRI 305 - 1. Denominator: Electric power production. Coverage: Electric power operations in situ of the Colombia and Caribbean and Central America regions.

A-EC1 Emisiones Específicas de CO ₂ Netas (kgCO ₂ /t material cementante)						
ENVIRONMENTAL POLICY INDICATOR	BASELINE YEAR(2006)	2018	2019	2020	2021	COMMENTS
SPECIFIC NET CO ₂ EMISSIONS (kg CO ₂ /t CEMENTITIOUS PRODUCTS)	735	616	627	634	635	<p>Net specific CO₂ emissions per tonne of cementitious material increased slightly by 0,2% regarding 2020. The absolute net CO₂ emissions increased in 14% and also cementitious material production increased 14%, in other words, CO₂ emissions increased in the same proportion as the production of cementitious material increased. The increase in production was mainly due to the reactivation of demand after the world began to overcome the economic crisis generated by the pandemic.</p> <p>The slight increase of 0.2% in net specific CO₂ emissions per tonne of cementitious material was mainly due to the increase in specific heat consumption in clinker production. This very small increase in net specific CO₂ emissions allows us to say that they remained stable, which reflects a similar performance in the levers for reducing direct CO₂ emissions from cement operations, associated with the cement clinker factor, which decreased, and the increase in the use of alternative fuels. Such marginal changes in these CO₂ reduction levers fell short of driving a significant decrease in emissions intensity.</p> <p>This indicator is calculated according to the methodology determined by the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD): "The Cement CO₂ and Energy Protocol - CO₂ and Energy Accounting and Reporting Standard for the Cement Industry" (2011). This indicator corresponds to the variable 74 calculated by the methodology described. Numerator: Net direct CO₂ emissions (Total CO₂ emissions, excluding CO₂ emissions from in situ power generation and CO₂ emissions generated by the consumption of alternative fuels). It corresponds to the variable 71 of the calculation of the "CO₂ and Energy Accounting and Reporting Standard for the Cement Industry - Cement CO₂ and Energy Protocol." Denominator: Cementitious material production. It corresponds to variable 21a of the calculation of the "CO₂ and Energy Accounting and Reporting Standard for the Cement Industry - Cement CO₂ and Energy Protocol."</p> <p>Coverage: Cement operations of the Colombia, Caribbean and Central America and United States regions.</p>
BASELINE YEAR	2006					
YEAR FOR WHICH THE GOAL IS SET	2030					
REDUCTION GOAL OF CEMENT GHG EMISSIONS	523					
REDUCTION COMPARED TO BASELINE YEAR 2006:	-14%					

BASELINE YEAR TO CALCULATE THE REDUCTION: 2020

GASES INCLUDED IN THE CALCULATION: CO₂

INITIATIVE	EMISSION REDUCTION (tCO ₂) TO 2020	INDICATION AS TO WHETHER THE REDUCED EMISSIONS BELONG TO THE SCOPE 1, 2 AND/OR 3	DESCRIPTION OF THE INITIATIVE
USA - Harleyville cement Plant: increase in the percentage of natural gas and alternative fuels in the fuel mix of the clinkerization kiln, in replacement of coal.	1.130	SCOPE 1	Increase in the percentage of coal substitution by natural gas and alternative fuels (tyres, RDF including plastics, waste oil and metallurgical coke) in the fuel mix for the clinkerization kiln. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
Caribbean and Central America - Piedras Azules cement Plant (Honduras): increase in the percentage of alternative fuels in the fuel mix of the clinkerization kiln, in replacement of petcoke	6.082	SCOPE 1	Increase in the percentage of petcoke substitution by alternative fuels (tyres, waste oils, and expired medications) in the fuel mix for the clinkerization kiln. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
Caribbean and Central America - Dorado cement Plant (Puerto Rico): operational transformation	59.239	SCOPE 1	In 2021 the operational transformation of this plant was consolidated, going from being a plant with clinker production to being a grinding center of clinker and blending plant. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
Colombia - Nare cement Plant: reduction of specific heat consumption in clinker production	38	SCOPE 1	A reduction in specific heat consumption of clinker production was obtained. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
Colombia - Toluviejo cement Plant: reduction of specific heat consumption in clinker production and increase in the percentage of natural gas.	2.331	SCOPE 1	A reduction in specific heat consumption of clinker production was obtained and an increase in the percentage of coal substitution by natural gas. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
USA - Martinsburg cement Plant: reduction of the clinker/cement factor.	2.249	SCOPE 1	Reduction of the clinker/cement factor. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
USA - Harleyville cement Plant: reduction of the clinker/cement factor.	2.109	SCOPE 1	Reduction of the clinker/cement factor. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.

INITIATIVE	EMISSION REDUCTION (tCO ₂) TO 2019	INDICATION AS TO WHETHER THE REDUCED EMISSIONS BELONG TO THE SCOPE 1, 2 AND/OR 3	DESCRIPTION OF THE INITIATIVE
Colombia - Cartagena cement Plant: reduction of the clinker/cement factor.	31.065	SCOPE 1	Reduction of the clinker/cement factor. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
Colombia - Rioclaro cement Plant: reduction of the clinker/cement factor.	51.336	SCOPE 1	Reduction of the clinker/cement factor. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
Colombia - Yumbo cement Plant: reduction of the clinker/cement factor.	3.528	SCOPE 1	Reduction of the clinker/cement factor. For this calculation, the CO ₂ and Energy Accounting and Reporting Standard for the Cement Industry – Cement CO ₂ and Energy Protocol (WBCSD - CSI, 2011) was used.
Caribbean and Central America - Piedras Azules cement Plant (Honduras): kiln dust (CKD) diversion directly to the finished product	44	SCOPE 2	The delivery of kiln dust (CKD) directly from the scales to the "aeros" of final product in finish mill 1 was implemented. It was possible to increase production between 1 and 2 tonne/hour in cement mill 1, achieving a reduction in electricity consumption of 0.5 kWh during the months of november and december.
Caribbean and Central America - Piedras Azules cement Plant (Honduras): reduction of specific heat consumption in clinker production through a lower variability of raw meal and the adjustment of operating variables in the kiln.	491	SCOPE 1	Various initiatives were implemented to improve productivity and reduce heat consumption in the kiln. Among these initiatives are a lower variability of the raw meal thanks to the use of a online analyzer, to the adjustment of oxygen in the cylinder head of the kiln (< 5.0%) and fineness in the fuel, the reliability of the kiln and its auxiliary systems.
Caribbean and Central America - Dominican Republic cement plant: continuous operation of the Digital Twin system to increase productivity in the cement mill.	473	SCOPE 2	There was a continuous operation of the Digital Twin system in the finish mill, which enabled savings in electricity consumption of 1 kWh/tonne and an increase in productivity of approximately 3 tonne/hour.
Colombia - Rioclaro cement Plant: increased use of Artificial Pozzolana (calcined clays)	1.983	SCOPE 2	The greater use of calcined clays as substitute for clinker in cement milling process has made it possible to reduce the specific power consumption until cement in silos. A reduction of 6.8 kWh/t was achieved until cement in silos at Rioclaro Plant.

INITIATIVE	EMISSION REDUCTION (tCO ₂) TO 2019	INDICATION AS TO WHETHER THE REDUCED EMISSIONS BELONG TO THE SCOPE 1, 2 AND/OR 3	DESCRIPTION OF THE INITIATIVE
Colombia - Rioclaro Plant: use of ash in thermally activated clays process at Rioclaro plant	7.031	SCOPE 1	Increase in the dosage of ash as a reducing agent in kiln 3 (where thermally activated clays process is run), which in turn provided mass and avoided the need to dispose that material in landfills. In 2021, 15919 tonne of ashes from the autogeneration thermoelectric plant were consumed in kiln 3, providing a decrease of 3073 tonne of coal consumption.
TOTAL	169.130		

RISK 1

Climate-related risks							
WHERE IN THE VALUE CHAIN DOES THE RISK DRIVER OCCUR?	RISK TYPE	PRIMARY CLIMATE-RELATED RISK DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Direct operations	Emerging regulation	Carbon pricing mechanisms	Increased direct costs	<p>Increased carbon pricing costs due to changes to the Nationally Determined Contributions (NDC) defined by international agreements. The COP21 conference set the commitment of countries to keeping the rise in global temperature below 2° Celsius compared to the pre-industrial age. Locally, this was reflected on the targets each country's set and committed to for their NDCs. In 2018 the IPCC (Intergovernmental Panel on Climate Change) report sent an alert to the governments of the world to take immediate action and set more ambitious goals to limit global warming to 1.5°C, given that current commitments will not keep the temperature within the expected range. In 2020, countries were requested to submit the next round of NDCs by 2020 and every five years thereafter (e.g. by 2020, 2025, 2030), regardless of their respective implementation time frames. For instance, by year 2030 USA committed to decreasing absolute emissions by 51%, while Colombia committed to decreasing them by 50% (previously 20%) under a Business-As-Usual (trend) scenario. Similarly, several countries in the Caribbean and Central America committed to reducing their CO₂ emissions, such as Honduras, which set a 16% target under the BAU by 2030.</p> <p>Therefore, all countries comprising our geographical scope may increase their NDCs in the future and hence their demands to carbon-intensive industries to reduce their emissions. The implementation of these targets will involve taking measures for industries with an intensive use of fuels, energy and CO₂ emissions, such as the cement industry. The main implications for Argos operations might be materialized through, for example, the implementation of economic instruments (taxes or CO₂ trading markets) and incentives, as well as mandatory reporting and verification systems, which imply an instant increase in production costs and decreases our competitiveness in the industry.</p> <p>Even if the mechanisms for carbon pricing specific for the cement industry may be yet unclear, we consider this risk as a standalone case in which we illustrate the potential costs that the company might assume should it comply with the NDC as stated by each country's government. This helps us in focusing the effort in geographies where our impacts and their potential internalization are most material for Argos and society.</p>	Medium-term	likely	Medium-high

POTENTIAL FINANCIAL IMPACT FIGURE		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM (CURRENCY)		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM (CURRENCY)		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
NA	NA	\$ 49.645.179.800	\$ 13.248.465	\$ 137.007.206.400	\$ 36.562.165	<p>The company monitors strategic risks through the definition of risk scenarios and their quantification via impacts of a potential risk materialization on strategic KRIs and KPIs such as EBITDA, FCF, net debt/EBITDA ratio and ROCE, measured as deviations of risk materializations from budgeted OKRs. These scenarios are constantly reported to the top management to promote decision-making.</p> <p>We considered the current NDCs defined by Colombia, USA & Honduras and calculated our emissions exceeding these thresholds. In addition, we defined potential carbon prices as random variables under a range from existing carbon pricing schemes according to the information available on the International Carbon Action Partnership (ICAP). Under a Value-at-Risk approach, we performed Monte Carlo simulations for cost overruns keeping BAU emission levels for each country and calculating the corresponding emissions thresholds and costs of potential traded permits.</p> <p>The following inputs & assumptions were updated for the valuation of this risk:</p> <ul style="list-style-type: none"> - We run the model keeping 2019 production levels as a business-as-usual year, as it is still a representative period in terms of business performance (considering pre-pandemic conditions) given that in 2020 the company went through periods of inactivity under local curfew measures. However, emissions in Puerto Rico were adjusted as the business model changed from an integrated to a grinding plant. - We set the NDC for USA as a random variable ranging from 7,5% to 51% emissions decrease, with a likely value of 28%, as it was the previous NDC submitted in the US. This, to consider a transition period and potential sector-specific mandates. - NDCs for Colombia were adjusted separating cement production from concrete, aggregates & electricity self-generation. Cement production contributions considered the benefits from co-processing that are expected by 2030, decreasing the sector specific NDC up to 7,5%, as stated by Colombia's submission. Other activities performed by the company kept the NDC of 50%. - The considered carbon pricing alternatives were updated under current market conditions. <p>Reported financial impacts are, the 10th and 95th percentiles from the resulting model's distribution of costs. As a result, cost overruns from setting NDCs for our emissions could vary between USD 13 (perc. 10) and 36 (perc. 95) million.</p>

DESCRIPTION OF RESPONSE AND EXPLANATION OF COST CALCULATION	COST OF RESPONSE TO RISK		COMMENT
	COP	USD	
<p>In 2021 Argos continued implementing initiatives related to the company's climate change strategy, specifically with the lines of action that promote the mitigation of CO₂ emissions. These actions involved investments and expenses of approximately USD \$ 8,9 million (33367 million COP).</p> <p>Some of these initiatives were:</p> <ul style="list-style-type: none"> - During 2021 we built the Technical and Financial Roadmap to reduce CO₂ emissions and reach the goal set for 2030. - In 2021 we signed the commitment letter of the Science-Based Targets initiative (SBTi), in which we commit to establishing CO₂ emission reduction targets, aligned with its criteria in the ambition trajectory temperature well below 2°C. - We voluntarily aligned with the Financial Stability Board (FSB) recommendations on Task Force on Climate-related Financial Disclosures (TCFD), which allow us to validate that the identification, evaluation and Effective management of climate-related risks and opportunities are embedded in our risk management process. - During 2021 there was an increase in production of line #3 of thermally activated clays at Rioclaro cement plant, carrying out a campaign per month and complying with all requirements to be used as clinker substitute in several types of cement. As of December 1 the installation of BSK equipment began, which will allow us to get the performance of line #3 to its design. We have increased knowledge throughout the operating structure to obtain thermally activated clays with established parameters. - We increased the substitution of conventional fuels (coal and petcoke) with alternative fuels (tires, mixed industrial waste, RDF, used oils, biomass, etc.), achieving a 6,4% rate at company level. - Regarding low carbon products, the company dedicated 63% of its total R&D projects' budget, for researching and developing of these products in 2020. - Implementation of initiatives to reduce the consumption of electrical and thermal energy. - The United States Environmental Protection Agency (EPA) recognized our Roberta cement plant, located in Alabama, and Harleyville cement plant, South Carolina, with ENERGY STAR® certification (for the sixth and fourth consecutive year, respectively). - During 2021, more than 370 life cycle assessment (LCA) of our cement and concrete products were carried out in the three regions through the implementation of the GCCA tool, EPD Tool – Quantis, which complies with the Product Category Rules (PCR) for cement (NSF, 2020) and concrete (NSF, 2019). This work has allowed us to identify low-carbon products in our geographies. 	\$ 33.367.303.385	8.904.501	<p>Monitoring and mitigation of this risk are integrated into the company's risk management system. Likewise, within the framework of the Environmental Strategy, Argos monitors and implements actions to reduce CO₂ emissions, such as: CO₂ inventory (scope 1, scope 2 and scope 3), CO₂ reduction objectives, and mitigation levers (energy efficiency, use of alternative fuels, reduction of the clinker/cement ratio, as well as the increase in the efficiency of the value chain, among others).</p> <p>Argos considers that operational efficiency mitigates climate-related impacts through the implementation of better and cleaner technologies and co-processing programs. The company constantly monitors risks regarding strategic efficiency projects and new technologies such as the usage of calcined clay.</p> <p>The company monitors its transitions risks through the participation in several sectorial programs: Portland Cement Association (PCA), National Ready-Mix Association (NRMCA), FICEM (American Federation of Cement), PROCEMCO (Colombian Chamber of Cement and Concrete), GCCA (Global Cement and Concrete Association) and ANDI (National Business Association of Colombia).</p> <p>In addition, the Risk Management and the Environmental Management teams constantly monitor emerging changes on carbon taxes in the countries where we operate, through platforms such as the International Carbon Action Partnership (ICAP) and the World Bank's carbon pricing dashboard.</p>

RISK 2

WHERE IN THE VALUE CHAIN DOES THE RISK DRIVER OCCUR?	RISK TYPE	PRIMARY CLIMATE-RELATED RISK DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Direct operations	Emerging regulation	Carbon pricing mechanisms	Increased direct costs	<p>Implementation of Emission Trading Systems (ETS) in the countries where the company operates: CO₂ market schemes will most likely be implemented over the next few years in the locations where Argos operates. More specifically, Colombia and the US are the countries where most of our carbon-intensive activities take place, and agendas on ETS are being currently carried out.</p> <p>In Colombia, with Law 1931 of 2018, the National Program for Tradable Emission Quotas was created. In the government of Ivan Duque this was included in the National Development Plan, although the Ministry of the Environment has not designed the regulatory mechanisms to implement it yet.</p> <p>In addition, ETS are in force in California and the states comprising the Regional Greenhouse Gas Initiative (RGGI), i.e., Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and Virginia. In addition, ETS schemes are being considered or implemented in Oregon, Washington, New Mexico, North Carolina and New York City. An ETS being implemented implies a cost on our cement production, which is the most representative business in terms of CO₂ emissions.</p>	Medium-term	Likely	Medium

POTENTIAL FINANCIAL IMPACT FIGURE		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
NA	NA	\$ 2.036.967.200	\$ 543.591	\$ 43.382.354.200	\$ 11.577.149	<p>The company monitors strategic risks through the definition of risk scenarios and their quantification via impacts of a potential risk materialization on strategic KPIs and KRIs such as EBITDA, FCF, net debt/EBITDA ratio and ROCE, measured as deviations of risk materializations from budgeted OKRs or targets.</p> <p>Currently Argos operates in regions where carbon market schemes (ETS) have not been implemented. However, the valuation of this risk aims to identify the potential impact of having an already existing ETS in at least one of the countries in which we operate. This scenario was updated considering three likely schemes to be implemented: the RGGI, the California cap-and-trade, and the European Union ETS. Under a Value-at-Risk approach, we performed Monte Carlo simulations for cost overruns considering these three schemes with their current carbon price levels, their allowances (intensities measured in tCO₂/t clinker) and the established free allocation of permits, when available. We compared the company's 2019 emission intensities to the allowances established by the market, and considering our clinker production, we calculated the emissions that might be subject to the purchase of permits.</p> <p>Random variables for each ETS are: carbon prices (according to the range in which prices varied in 2019 or 2020), and the level of free allocation of permits in the EU ETS, considering the expected decrease to a 30%. For adding up the simulations by country and controlling for simultaneity, a binary matrix was added with Bernoulli distributions.</p> <p>The following inputs and assumptions were modified for updating this scenario:</p> <ul style="list-style-type: none"> - We run the model keeping 2019 production levels as a business-as-usual year, as it is still a representative period in terms of business performance (i.e., considering pre-pandemic conditions) given that in 2020 the company went through periods of inactivity under local curfew measures. Operations that changed their main activity or went inactive, were adjusted accordingly. - We added a third alternative ETS, namely the RGGI, to consider more options already running in the US, as it is the country in which a significant part of our emissions take place. <p>An implementation of an ETS in our current conditions, may represent between USD 544 thousand (percentile 5) and 11.6 (percentile 95) million in additional costs.</p>

DESCRIPTION OF RESPONSE AND EXPLANATION OF COST CALCULATION	COST OF RESPONSE TO RISK		COMMENT
	COP	USD	
<p>In 2021 Argos continued implementing initiatives related to the company's climate change strategy, specifically with the lines of action that promote the mitigation of CO₂ emissions. These actions involved investments and expenses of approximately USD \$ 8,9 million (33367 million COP).</p> <p>Some of these initiatives were:</p> <ul style="list-style-type: none"> - During 2021 we built the Technical and Financial Roadmap to reduce CO₂ emissions and reach the goal set for 2030. - In 2021 we signed the commitment letter of the Science-Based Targets initiative (SBTi), in which we commit to establishing CO₂ emission reduction targets, aligned with its criteria in the ambition trajectory temperature well below 2°C. - We voluntarily aligned with the Financial Stability Board (FSB) recommendations on Task Force on Climate-related Financial Disclosures (TCFD), which allow us to validate that the identification, evaluation and Effective management of climate-related risks and opportunities are embedded in our risk management process. - During 2021 there was an increase in production of line #3 of thermally activated clays at Rioclaro cement plant, carrying out a campaign per month and complying with all requirements to be used as clinker substitute in several types of cement. As of December 1 the installation of BSK equipment began, which will allow us to get the performance of line #3 to its design. We have increased knowledge throughout the operating structure to obtain thermally activated clays with established parameters. - We increased the substitution of conventional fuels (coal and petcoke) with alternative fuels (tires, mixed industrial waste, RDF, used oils, biomass, etc.), achieving a 6,4% rate at company level. - Regarding low carbon products, the company dedicated 63% of its total R&D projects' budget, for researching and developing of these products in 2020. - Implementation of initiatives to reduce the consumption of electrical and thermal energy. - The United States Environmental Protection Agency (EPA) recognized our Roberta cement plant, located in Alabama, and Harleyville cement plant, South Carolina, with ENERGY STAR® certification (for the sixth and fourth consecutive year, respectively). - During 2021, more than 370 life cycle assessment (LCA) of our cement and concrete products were carried out in the three regions through the implementation of the GCCA tool, EPD Tool – Quantis, which complies with the Product Category Rules (PCR) for cement (NSF, 2020) and concrete (NSF, 2019). This work has allowed us to identify low-carbon products in our geographies. 	\$ 33.367.303.385	8.904.501	<p>Monitoring and mitigation of this risk are integrated into the company's risk management system. Likewise, within the framework of the Environmental Strategy, Argos monitors and implements actions to reduce CO₂ emissions, such as: CO₂ inventory (scope 1, scope 2 and scope 3), CO₂ reduction objectives, and mitigation levers (energy efficiency, use of alternative fuels, reduction of the clinker/cement ratio, as well as the increase in the efficiency of the value chain, among others).</p> <p>Argos considers that operational efficiency mitigates climate-related impacts through the implementation of better and cleaner technologies and co-processing programs. The company constantly monitors risks regarding strategic efficiency projects and new technologies such as the usage of calcined clay.</p> <p>The company monitors its transitions risks through the participation in several sectorial programs: Portland Cement Association (PCA), National Ready-Mix Association (NRMCA), FICEM (American Federation of Cement), PROCEMCO (Colombian Chamber of Cement and Concrete), GCCA (Global Cement and Concrete Association) and ANDI (National Business Association of Colombia).</p> <p>In addition, the Risk Management and the Environmental Management teams constantly monitor emerging changes on carbon taxes in the countries where we operate, through platforms such as the International Carbon Action Partnership (ICAP) and the World Bank's carbon pricing dashboard.</p>

RISK 3

WHERE IN THE VALUE CHAIN DOES THE RISK DRIVER OCCUR?	RISK TYPE	PRIMARY CLIMATE-RELATED RISK DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Direct operations	Current regulation	Carbon pricing mechanisms	Increased direct costs	<p>New or higher carbon taxes on emissions or fossil fuel consumption: among Argos' operations, Colombia is currently the only country where a carbon tax has been implemented. The Environmental, Energy Management, Risk Management, Production and Financial Planning teams developed a risk analysis addressing a potential widening of the tax base on Colombia's current carbon tax. Carbon taxes (currently applicable to liquid fuels consumption) could be potentially increased soon due to the widening of the tax base to coal and gas consumption.</p> <p>In April 2021, a first draft of the tax reform was released that proposes several modifications in green taxes. The first material change would consist of taxing the national consumption of coal with the National Carbon Tax (INC, by its Spanish acronym) at a rate of COP 41,861 (approximately eleven dollars) per tonne. The INC is an indirect tax, like VAT, that is registered only once in the chain (single phase) and falls on the carbon content of fossil fuels used for energy and combustion purposes. The tax is generated with the first sale made by the producer, or with the withdrawal of inventory and import for own consumption. Exports are exempt from the tax, as it is a tax that seeks to reduce CO₂ emissions in Colombia.</p> <p>As it is an indirect tax, the producer of the fuel must collect it and the buyer is the one who must bear its value but can deduct it from the income. From the point of view of the tax management, this allows a reduced margin of maneuver due to its few exemptions or no subjection. The most important of these is to be credited as "carbon neutral". In other words the Law allows that the carbon tax is not incurred for taxpayers who certify to be carbon neutral through CO₂ mitigation initiatives certified by third parties (these are projects developed at the national level whose objective is the reduction, removal or capture of GHG). One can also buy carbon credits, at a cost less than the value of the tax.</p> <p>The tax on coal would begin to apply from 2022 progressively until 2028, in the following percentages:</p> <ol style="list-style-type: none"> 1. For the years 2022 and 2023: 0%. 2. For the year 2024: 20% of the value of the full rate. 3. For the year 2025: 40% of the value of the full rate. 4. For the year 2026: 60% of the value of the full rate. 5. For the year 2027: 80% of the value of the full rate. 6. From the year 2028: full rate. <p>By now, this law was postponed in the country.</p>	Medium-term	Virtually certain	Medium-low

POTENTIAL FINANCIAL IMPACT FIGURE		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
NA	NA	\$ 9.571.747.800,00	\$ 2.554.346,08	\$ 29.171.657.600	\$ 7.784.838	<p>The company monitors strategic risks through the definition of risk scenarios and their quantification via impacts of a potential risk materialization on strategic KPIs and KRIs such as EBITDA, FCF, net debt/EBITDA ratio and ROCE, measured as deviations of risk materializations from budgeted KPIs or targets. These scenarios are constantly reported to the top management to promote decision-making.</p> <p>Given the latest updates on the upcoming tax reform in Colombia, we valued this risk addressing a potential widening of the tax base on Colombia's carbon tax. Under a Value-at-Risk approach, we performed Monte Carlo simulations for cost overruns derived from the tax increase. We took optimistic, likely and pessimistic references for potential carbon tax values per tonne of coal and cubic meter of gas consumed based on our 2019 production figures:</p> <p>The following inputs and assumptions were modified for updating this analysis:</p> <ul style="list-style-type: none"> - We run the model keeping 2019 production levels as a business-as-usual year, as it is still a representative period in terms of business performance (i.e., considering pre-pandemic conditions) given that in 2020 the company went through periods of inactivity under local curfew measures. Operations that changed their main activity or went inactive, were adjusted accordingly. - Assumed tax values for coal and gas increased on average, as the uncertainty on the final value was reduced by the tax reform proposal. This reform also considers a yearly increasing gradual implementation, which was also taken into account. - Gas consumption was considered under the guidelines provided by the tax reform. <p>The widening of the carbon tax base in Colombia may represent between USD 2.6 (percentile 5) and 7.8 (percentile 95) million COP in additional costs. This risk assessment will be performed in other countries, once we detect that a carbon tax is being considered by the governments of countries in which we opera-</p>

DESCRIPTION OF RESPONSE AND EXPLANATION OF COST CALCULATION	COST OF RESPONSE TO RISK		COMMENT
	COP	USD	
<p>In 2021 Argos continued implementing initiatives related to the company's climate change strategy, specifically with the lines of action that promote the mitigation of CO₂ emissions. These actions involved investments and expenses of approximately USD \$ 8,9 million (33367 million COP).</p> <p>Some of these initiatives were:</p> <ul style="list-style-type: none"> - During 2021 we built the Technical and Financial Roadmap to reduce CO₂ emissions and reach the goal set for 2030. - In 2021 we signed the commitment letter of the Science-Based Targets initiative (SBTi), in which we commit to establishing CO₂ emission reduction targets, aligned with its criteria in the ambition trajectory temperature well below 2°C. - We voluntarily aligned with the Financial Stability Board (FSB) recommendations on Task Force on Climate-related Financial Disclosures (TCFD), which allow us to validate that the identification, evaluation and Effective management of climate-related risks and opportunities are embedded in our risk management process. - During 2021 there was an increase in production of line #3 of thermally activated clays at Rioclaro cement plant, carrying out a campaign per month and complying with all requirements to be used as clinker substitute in several types of cement. As of December 1 the installation of BSK equipment began, which will allow us to get the performance of line #3 to its design. We have increased knowledge throughout the operating structure to obtain thermally activated clays with established parameters. - We increased the substitution of conventional fuels (coal and petcoke) with alternative fuels (tires, mixed industrial waste, RDF, used oils, biomass, etc.), achieving a 6,4% rate at company level. - Regarding low carbon products, the company dedicated 63% of its total R&D projects' budget, for researching and developing of these products in 2020. - Implementation of initiatives to reduce the consumption of electrical and thermal energy. - The United States Environmental Protection Agency (EPA) recognized our Roberta cement plant, located in Alabama, and Harleyville cement plant, South Carolina, with ENERGY STAR® certification (for the sixth and fourth consecutive year, respectively). - During 2021, more than 370 life cycle assessment (LCA) of our cement and concrete products were carried out in the three regions through the implementation of the GCCA tool, EPD Tool – Quantis, which complies with the Product Category Rules (PCR) for cement (NSF, 2020) and concrete (NSF, 2019). This work has allowed us to identify low-carbon products in our geographies. 	\$ 33.367.303.384	8.904.501	<p>Monitoring and mitigation of this risk are integrated into the company's risk management system. Likewise, within the framework of the Environmental Strategy, Argos monitors and implements actions to reduce CO₂ emissions, such as: CO₂ inventory (scope 1, scope 2 and scope 3), CO₂ reduction objectives, and mitigation levers (energy efficiency, use of alternative fuels, reduction of the clinker/cement ratio, as well as the increase in the efficiency of the value chain, among others).</p> <p>Argos considers that operational efficiency mitigates climate-related impacts through the implementation of better and cleaner technologies and co-processing programs. The company constantly monitors risks regarding strategic efficiency projects and new technologies such as the usage of calcined clay.</p> <p>The company monitors its transitions risks through the participation in several sectorial programs: Portland Cement Association (PCA), National Ready-Mix Association (NRMCA), FICEM (American Federation of Cement), PROCEMCO (Colombian Chamber of Cement and Concrete), GCCA (Global Cement and Concrete Association) and ANDI (National Business Association of Colombia).</p> <p>In addition, the Risk Management and the Environmental Management teams constantly monitor emerging changes on carbon taxes in the countries where we operate, through platforms such as the International Carbon Action Partnership (ICAP) and the World Bank's carbon pricing dashboard.</p>

RISK 4

WHERE IN THE VALUE CHAIN DOES THE RISK DRIVER OCCUR?	RISK TYPE	PRIMARY CLIMATE-RELATED RISK DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Upstream	Market	Increased cost of raw materials	Increased direct costs	Increase in energy prices from stressed energy markets and raw material scarcity: energy regulation in Colombia establishes penalties for excess electricity consumption during a scarcity period, i.e., a period in which energy sources are affected to the extent that market asymmetries must be corrected by a trading scheme. Despite counting on long-term contracts to reduce the volatility of electricity prices and the exposure during scarcity periods, the regulation establishes that any consumption beyond our energy consumption baseline is exposed to high and volatile energy market prices. The exposure increases if any damage occurs to our self-generation facilities, or if there is no gas to supply our self-generating capacity.	Short-term	Virtually certain	Medium-high

POTENTIAL FINANCIAL IMPACT FIGURE		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
NA	NA	\$ 3.544.389.989	\$ 945.866,82	\$ 62.586.267.609	\$ 16.701.964	<p>The company monitors strategic risks through the definition of risk scenarios and their quantification via impacts of a potential risk materialization on strategic KPIs and KRIs such as EBITDA, FCF, net debt/EBITDA ratio and ROCE, measured as deviations of risk materializations from budgeted KPIs or targets. These scenarios are constantly reported to the top management to promote decision-making.</p> <p>Under a Value-at-Risk approach, we performed Monte Carlo simulations for cost overruns derived from producing under an El Niño phenomenon with the same characteristics of the one set in 2015-2016, but with our current energy consumption levels and energy market conditions regarding price levels. Energy prices (regulated and non-regulated) were defined as random variables with variation ranges according to current price fluctuations, and prices under scarcity conditions were modeled emulating the variations presented during the scarcity period of 2015-2016. We also established what-if conditions regarding the damage of our self-generation facilities and gas scarcity, as well as catastrophic scenario in which we could not self-generate.</p> <p>Reported values correspond to the 5 percentile of an optimistic scenario (i.e., counting on full capacity of our self-generation facilities), and the 95% of the catastrophic scenario (not being able to generate during this period).</p>

DESCRIPTION OF RESPONSE AND EXPLANATION OF COST CALCULATION	COST OF RESPONSE TO RISK		COMMENT
	COP	USD	
<p>We materialize our Corporate Strategy through actions aimed at the efficient use of resources, the improvement of our financial flexibility, and the maximization of income generation and business profitability. For those reasons, we focus in the application of efficient and safe production processes, the application of circular-economy models, the diversification of energy-management models and the efficient management of the supply chain.</p> <p>Regarding electric and heat efficiency, we are aware of the need to work on reducing energy consumption as one of the fundamental pillars in the climate-change mitigation process. This goes hand in hand with our Corporate Strategies and Policies and with the commitment that our Managers have with sustainability.</p> <p>The reported figure for cost of response to risk corresponds the investments for reducing power consumption in 2021, such as:</p> <ul style="list-style-type: none"> - Kiln dust (CKD) diversion directly to the finished product (Piedras Azules cement plant). - Continuous operation of the Digital Twin system to increase productivity in the cement mill (Dominican Republic cement plant). - The greater use of calcined clays as substitute for clinker in cement milling process has made it possible to reduce the specific power consumption until cement in silos (at Rioclaro cement plant) 	\$ 7.543.194.120	2.013.000	<p>Regarding electricity consumption, different responses are structured depending on each country's profile. For instance, in Colombia and Panama, long-term variations of weather patterns affect water availability and hence the reliability on hydroelectric sources, which are these countries' main power providers. Mitigation actions include long-term contracts with fixed prices. In countries with diverse non-predominant energy markets, we study renewable and conventional generation projects to reliably cover the demand at a competitive price. For instance, in 2018 and together with Celsia, we started implementing a solar farm in Honduras, which contributed 17% of the electricity requirement of the cement operation of the Piedras Azules Plant during 2021.</p> <p>Also, we highlight in the Caribbean and Colombia regional divisions, the implementation of Optimization Levers in Heat and Electricity Consumption, which aim to make a more efficient management of our consumption from improvement projects. These levers are supported by a 3-year work plan and people in charge of delivery and KPI monitoring</p>

RISK 5

WHERE IN THE VALUE CHAIN DOES THE RISK DRIVER OCCUR?	RISK TYPE	PRIMARY CLIMATE-RELATED RISK DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Direct operations	Acute physical	Increased severity and frequency of extreme weather events such as cyclones and floodss	Decreased revenues due to reduced production capacity	Effects on operations caused by extreme weather events (SR9): Argos operates in areas which are highly vulnerable to extreme weather events, such as hurricanes, floods and storm surge. These risks foster the need to frequently monitor potential impacts from extreme weather events on our operations and supply chain, and design mitigation and adaptation strategies for all our facilities depending on their specific degree of vulnerability. Extreme weather events have an impact in the availability of our facilities, causing increases in logistical costs, decrease in revenues, higher insurance premiums, property damage costs, among others.	Short-term	Likely	Medium

POTENTIAL FINANCIAL IMPACT FIGURE		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
\$ 41.830.0008.600	\$ 11.162.885	NA	NA	NA	NA	Argos estimates financial impacts of extreme weather events via costs of interrupting operations in key facilities (e.g., logistical, loss of profits), and potential property damage losses affecting insurance premiums. In 2021 the value on annual losses from property damage and business interruption were updated. Losses for all locations were estimated using the AIR Touchstone and Risk Management Solutions (RMS) models for hurricane, floods and storm surge, which enabled us to make better informed risk transfer and retention decisions, as well as to better identify critical operations in order to prioritize climate change adaptation plans. Results for all our facilities account for approximately 11 million USD. Estimations are used internally for decision-making.

DESCRIPTION OF RESPONSE AND EXPLANATION OF COST CALCULATION	COST OF RESPONSE TO RISK		COMMENT
	COP	USD	
<p>In Adaptation to climate change line of work of our climate change strategy, we focus on identifying and evaluating the physical risks to which our operations are exposed, as well as establishing the measures that allow them to be mitigated. We highlight that in 2021 we built and disseminated a physical risk assessment tool to be implemented in our cement, concrete and aggregates facilities of all our geographies, which allows the personnel of each operation to evaluate, according to the threat to which it is exposed, or the specific vulnerability conditions of its context, the total exposure to physical risks for people, processes and the continuity of the operation.</p> <p>The potential impacts enable Argos implementing early actions aimed at optimizing the logistics chain in order to reduce the magnitude of potential impacts as well as to reduce our exposure to increased insurance premium costs. Reported management costs comprise the global corporate property policy premium for 2021-2022. The policy covers global losses from property damage and business interruption for natural events in which earthquakes are also included.</p> <p>In addition, all facilities are currently designing climate change adaptation plans, according to Argos' Climate Change Adaptation Guidelines (CCAG), which must be applied to all our existing facilities and new operations acquired by the company in the future. Argos' CCAG comprises five steps, namely:</p> <ol style="list-style-type: none"> 1. Identifying & assessing physical risks Physical risks are identified according to the threats: floods, landslides, hurricanes, atmospheric discharges, tropical depression, frosts, wildfires, heavy rains, heat waves, droughts, gales, winds and rise in sea level. For assessing these threats, we rely on Geosura, which displays the intensity of natural hazards in each location. Threat scores for each facility are combined with vulnerability assessments to obtain a facility score of physical risk exposure. Results of the physical risk assessment combined with the results from the Nat-Cat modeling provide inputs for designing climate change adaptation measures in each facility. 2. Identifying and prioritizing adaptation measures Identifying measures aimed at reducing the effects of climate variability & change. Prioritizing these measures implies identifying which ones are most appropriate and effective. 3. Planning & implementing selected measures Planning the prioritized measures implies considering aspects such as scope, timeframe, cost-benefit analyses and funding sources, which must be defined for each facility. 4. Monitoring & evaluation The measures adopted must be monitored & evaluated to guarantee continuous improvement. Argos counts on a self-assessment tool (SSA) for evaluating the environmental management system's maturity which allows grading & following-up the implementation of control measures to mitigate risk exposure. 5. Lessons learned & best practices This stage aims to determine whether the implemented measures increased climate resilience. <p>Each year we count on updated quantified risk scenarios (AIR & RMS), threat assessments (Geosura) and SSA tools for all locations.</p>	\$ 48.926.831.600	\$ 13.056.764	Argos currently counts on a standardized physical risk assessment tool that was shared during 2021 with all facilities, so they can assess their local physical risk exposure.

RISK 6

WHERE IN THE VALUE CHAIN DOES THE RISK DRIVER OCCUR?	RISK TYPE	PRIMARY CLIMATE-RELATED RISK DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Upstream	Chronic physical	Changes in precipitation patterns and extreme variability in weather patterns	Increased indirect (operating) costs	<p>Depletion of water resources for the continuity of the operation due to climate change and ecosystem degradation (emerging risk 2): as a consequence of climate change, exposure to changes in water availability (droughts or floods) and quality (contamination) increases, which restricts water access for both the community and the company.</p> <p>The potential impacts derived from this risk's materialization are:</p> <ul style="list-style-type: none"> * Impact on the continuity of operations. * Opposition to the operation by communities in the areas of influence * Increased operational costs * Denials of permits for new operations and facilities. * Reduced investment attractiveness due to non-compliance to environmental commitments. 	Long-term	About as likely as not	Low

POTENTIAL FINANCIAL IMPACT FIGURE		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
NA	NA	\$ 5.002.426.400	1.334.963	\$ 6.107.660.200	1.629.909	<p>Risk exposure to chronic physical risk is assessed through the WRI's Aqueduct and the Water Risk Filter (WRF), which enable to prioritize and implement water management plans and targets defined by the Environmental Strategy. We developed a water risk assessment tool for forecasting annual costs associated to water consumption, considering the facilities' current stress levels (Aqueduct), potential variations of water stress (WRF), and future social costs of water consumption according to the Value Added Statement, i.e., Argos' model for monetizing externalities.</p> <p>Reported financial impact corresponds to the difference between the annual water consumption costs under a business-as-usual scenario and the one resulting when projected increases in water stress are taken into account. Random variables for this scenario are: water consumption levels, water costs per cubic meter and water stress levels for locations that may present significant water stress levels increases in a 10-year span. Aggregated cost overruns for all cement plants amount between USD 1,3 (percentile 5) and 1,6 million USD (percentile 95).</p>

DESCRIPTION OF RESPONSE AND EXPLANATION OF COST CALCULATION	COST OF RESPONSE TO RISK		COMMENT
	COP	USD	
<p>Reported figures comprise actions in all facilities related to improvements of measurements, water recirculation processes, wastewater treatment and environmental culture activities around water.</p> <p>The company has implemented the following responses facing the materialization of this risk:</p> <ul style="list-style-type: none"> • Environmental strategy with emphasis on water risk management, which includes prospective analysis through tools such as Aqueduct and the Water Risk Filter, as a basis for future investments. • Technological renovation to reduce water consumption. • Operational efficiency projects. • Quantification of water flows to the operations. • Water measurement and efficient use plans in all facilities. 	\$ 7.687.848.865	2.051.603	<p>Water Risk Assessment for 100% of Argos' direct operations was carried out using WRI Aqueduct, since this tool allows to establish physical water risk exposure levels according its baseline water stress by plant. In 2020, 2,8% of Argos facilities are in basins with an extremely high-water stress level, 18,6 % in basins with high level, 28,5% in medium to high level, 14,6% in low to medium level and 35,6% in low level. A more detailed water risk assessment was conducted using WWF Water Risk Filter, for the plants located in high or extremely high water-stressed areas (21%) to establish action plans for water risk management, quantification, design scenarios of possible operation disruptions at strategic & tactical levels & suggest mitigating actions to reduce risk exposure to reasonable levels. This supported Argos to be aware and prioritize efforts towards water efficient use, minimize risk exposure, as well as to project different risk future scenarios.</p> <p>Regarding suppliers' water risk assessment, every year Argos performs a water risk assessment for its critical suppliers (97 locations from 64 suppliers) with WRI Aqueduct tool. From that assessment it was concluded that about 5% of the operations of the evaluated suppliers are in zones of high or extremely high-water stress level, 12% with medium to high stress, 30% in zones with medium to low level stress, while the remaining 53% is in zones of low stress level. Thus, Argos uses this information to prioritize and share good practices and strategies of water management with suppliers, such as good practice guides for water management, water accounting, water risk assessment, among others with the aim of communicating experiences and creating collective actions around proper water management at operational and supply chain level.</p>

RISK 7

WHERE IN THE VALUE CHAIN DOES THE RISK DRIVER OCCUR?	RISK TYPE	PRIMARY CLIMATE-RELATED RISK DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Downstream	Reputation	Stigmatization of sector	Decreased access to capital	<p>Restrictions on access to capital, credits and the like, as it is a production process that is intensive in CO2 emissions. The company may be increasingly exposed to different risks related to investment capital and indebtedness, as ESG metric disclosure standards are widely adopted, financial products aligned with long-term commitments to reduce CO2 emissions are developed, and more and more investors require greater transparency from company managers regarding climate change commitments. There would be a potential increase in the cost of borrowing or the inability to access credits granted by the banking system, plus a greater preference of investors and asset managers for sectors with lower carbon footprints or trends towards carbon neutrality. This may begin to materialize strongly in the Americas, which may follow emerging trends in other regions.</p> <p>The impacts derived from this risk are, among others:</p> <ul style="list-style-type: none"> * Changes in credit ratings motivated by ESG criteria (environmental, social and governance) that impact investment opportunities. * Cost overruns of credit placed by financial institutions. * Impossibility of acquiring credit instruments that allow the financing of projects that contribute to climate change mitigation. * Lack of access to credit lines with competitive rates attached to ESG performance * Withdrawal of capital and advocacy from investors who are seeking to change their portfolios to sectors with a lower carbon footprint, carbon neutral or whose actions are aimed at mitigating the impacts of climate change. 	Medium-term	Very likely	Low

POTENTIAL FINANCIAL IMPACT FIGURE		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
		\$ 675.000.000	180.133	\$ 2.025.000.000	540.398	The company is exploring potential drivers of this risk via credit and investment. This is an emerging risk in the Americas, hence specific ways in which it could be materialized is yet to be determined. However, one of the emerging trends Argos foresees is the development of financial products attached to ESG performance. Reported impacts are opportunity costs associated with non-compliance with ESG metrics attached to emerging financial products.

DESCRIPTION OF RESPONSE AND EXPLANATION OF COST CALCULATION	COST OF RESPONSE TO RISK		COMMENT
	COP	USD	
<p>In 2021 Argos continued implementing initiatives related to the company's climate change strategy, specifically with the lines of action that promote the mitigation of CO₂ emissions. These actions involved investments and expenses of approximately USD \$ 8,9 million (33367 million COP).</p> <p>Some of these initiatives were:</p> <ul style="list-style-type: none"> - During 2021 we built the Technical and Financial Roadmap to reduce CO₂ emissions and reach the goal set for 2030. - In 2021 we signed the commitment letter of the Science-Based Targets initiative (SBTi), in which we commit to establishing CO₂ emission reduction targets, aligned with its criteria in the ambition trajectory temperature well below 2°C. - We voluntarily aligned with the Financial Stability Board (FSB) recommendations on Task Force on Climate-related Financial Disclosures (TCFD), which allow us to validate that the identification, evaluation and Effective management of climate-related risks and opportunities are embedded in our risk management process. - During 2021 there was an increase in production of line #3 of thermally activated clays at Rioclaro cement plant, carrying out a campaign per month and complying with all requirements to be used as clinker substitute in several types of cement. As of December 1 the installation of BSK equipment began, which will allow us to get the performance of line #3 to its design. We have increased knowledge throughout the operating structure to obtain thermally activated clays with established parameters. - We increased the substitution of conventional fuels (coal and petcoke) with alternative fuels (tires, mixed industrial waste, RDF, used oils, biomass, etc.), achieving a 6,4% rate at company level. - Regarding low carbon products, the company dedicated 63% of its total R&D projects' budget, for researching and developing of these products in 2020. - Implementation of initiatives to reduce the consumption of electrical and thermal energy. - The United States Environmental Protection Agency (EPA) recognized our Roberta cement plant, located in Alabama, and Harleyville cement plant, South Carolina, with ENERGY STAR® certification (for the sixth and fourth consecutive year, respectively). - During 2021, more than 370 life cycle assessment (LCA) of our cement and concrete products were carried out in the three regions through the implementation of the GCCA tool, EPD Tool – Quantis, which complies with the Product Category Rules (PCR) for cement (NSF, 2020) and concrete (NSF, 2019). This work has allowed us to identify low-carbon products in our geographies. 	\$ 33.367.303.385	8.904.501	<p>Argos has been working on increasing its possibility to access to green financing and in 2021 the Company signed a long-term financing agreement with BBVA through a sustainable credit for COP 160.000 million (equivalent to approx. 37 million euros) where the interest rate will be linked to the company's performance in ESG aspects.</p> <p>Monitoring and mitigation of this risk are integrated into the company's risk management system. Likewise, within the framework of the Environmental Strategy Argos monitors and implements actions to reduce CO₂ emissions, such as: CO₂ inventory (scope 1, scope 2 and scope 3), CO₂ reduction objectives, and mitigation levers (energy efficiency, use of alternative fuels, reduction of the clinker/cement ratio, as well as the increase in the efficiency of the value chain, among others).</p> <p>Argos considers that operational efficiency mitigates climate-related impacts through the implementation of better and cleaner technologies and co-processing programs. The company constantly monitors risks regarding strategic efficiency projects and new technologies such as the usage of calcined clay.</p> <p>The company monitors its transitions risks through the participation in several sectorial programs: Portland Cement Association (PCA), National Ready-Mix Association (NRMCA), FICEM (American Federation of Cement), PROCEMCO (Colombian Chamber of Cement and Concrete), GCCA (Global Cement and Concrete Association), and ANDI (National Business Association of Colombia).</p>

WHERE IN THE VALUE CHAIN DOES THE OPPORTUNITY OCCUR?	OPPORTUNITY TYPE	PRIMARY CLIMATE-RELATED OPPORTUNITY DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Downstream	Products and services	Development and/or expansion of low emission goods and services	Increased revenues resulting from increased demand for products and services	<p>Increased market opportunities via the Green Solutions portfolio “Green solutions, conscious innovation”: In the coming years we will be the actors in a profound transformation of the construction industry which will allow us to offer our clients a portfolio of carbon neutral solutions by 2050 at the latest. To achieve this goal, we want to be the best allies of our clients in the construction of their sustainable housing and infrastructure dreams in all the territories where we operate. This opens new business opportunities and the possibility of increasing revenue from sales of solutions with clear benefits for sustainable construction. Our goal by 2030 is for the revenue generated from the sale of products with sustainability characteristics to reach USD 800 million.</p> <p>We highlight in this portfolio the following categories of products that contribute to the mitigation and adaptation of climate change: 1. Low carbon products, 2. Adaptation and circular economy, and 3. Products that incorporate innovative technologies in a carbon neutral industry.</p> <p>1. Low Carbon Products: cement and concrete with lower carbon content embedded and lower energy consumption in its production stage, according to life cycle analyses. 2. Adaptation and circular economy: cement and concrete produced with recycled materials, concrete that allows to reduce the consumption of raw materials during the construction works, concretes that allows to increase the useful life of the infrastructure and reduce the use of raw materials for repairs or reconstructions, and concretes to manage water as a resource. 3. Products that incorporate innovative technologies in a carbon neutral industry: this is a new category of products that incorporate innovative technologies to reduce environmental impacts. One of these technologies, with which Argos has been a pioneer in the world, is the thermally activated clays from the Rioclaro plant in Colombia, which reduces greenhouse gas emissions.</p> <p>In addition, we aim to keep accessing market opportunities via products with resilience characteristics. With the increasing likelihood of more intense extreme weather events that may cause natural disasters, Argos sees the importance in developing products that help to build infrastructures that better adapt to the changing conditions. For example, Argos offers a special concrete with higher solar reflectance, which minimizes heat absorption. In addition, the company offers products that allow greater infiltration rate, so it reduces the intensity of damage caused by floods.</p>	Short-term	Virtually certain	High

POTENTIAL FINANCIAL IMPACT FIGURE (CURRENCY)		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
\$ 5.575.695.148.288	\$ 1.487.947.169	NA	NA	NA	NA	<p>The financial implications resulting from increased demand for products and services are related to the revenues from sales of products that contribute to the mitigation and adaptation of climate change:</p> <p>1. Low Carbon Products: cement and concrete with lower carbon content embedded and lower energy consumption in its production stage, according to life cycle analyses. For Argos a Low Carbon Product must have a Life Cycle Analysis (LCA) and its Global Warming Potential (GWP) result must be lower than the industry average and or 20% substitution of raw materials. 2. Adaptation and circular economy: cement and concrete produced with recycled materials, concrete that allows to reduce the consumption of raw materials during the construction works, concretes that allows to increase the useful life of the infrastructure and reduce the use of raw materials for repairs or reconstructions, and concretes to manage water as a resource. 3. Products that incorporate innovative technologies in a carbon neutral industry: this is a new category of products that incorporate innovative technologies to reduce environmental impacts. One of these technologies, with which Argos has been a pioneer in the world, is the thermally activated clays from the Rioclaro plant in Colombia, which reduces greenhouse gas emissions.</p>

STRATEGY TO REALIZE OPPORTUNITY AND EXPLANATION OF COST CALCULATION	COST TO REALIZE OPPORTUNITY		COMMENT
	COP	USD	
<p>Reported annual costs correspond to R&D projects for developing products with sustainability characteristics, such as: low-carbon products, adaptation and circular economy, among others.</p> <p>Our Research and Development team (R&D) develops innovative and low carbon processes, products and solutions that allow reduce CO₂ emissions at various stages of our value chain. Regarding low carbon products, the company dedicated 63% of its total R&D projects budget, for researching and developing of these products in 2021.</p> <p>Argos works to create sustainable value, effectively responding to new market dynamics and positioning itself as industry leader through innovation. Thus, product portfolio and customized solutions is the value proposition that Argos offers to its customers, and which differentiates it in the marketplace (i.e. cement, concrete, aggregates, as well as differential services such as technical assistance, integrated logistics, and customized solution design). In addition, under the “Sustainable construction” pillar of the Environmental Strategy, Company leverage life cycle management and develop products focused on solving constructive challenges with extraordinary solutions through innovation.</p>	\$ 961.489.768	\$ 256.586	<p>As a result of Argos commitment with sustainability, the Company is providing the Green Solutions portfolio to its clients, a set of products and solutions aimed at strengthening the value chain and mitigating the impact of the operations from the production process to the final disposal of its products (see webpage Green Solutions, Conscious Innovation https://bit.ly/3yxiqxt).</p> <p>In 2020 the Green solutions cell (i.e., company-wide task force) was created; this group seeks to advocate products and solutions with sustainability characteristics, as well as creating soluble packaging, promoting recycling programs, a hybrid fleet, among other initiatives. - During 2021, more than 370 life cycle assessment (LCA) of our cement and concrete products were carried out in the three regions through the implementation of the GCCA tool, EPD Tool – Quantis, which complies with the Product Category Rules (PCR) for cement (NSF, 2020) and concrete (NSF, 2019). This work has allowed us to identify low-carbon products in our geographies.</p>

OPP 2

WHERE IN THE VALUE CHAIN DOES THE OPPORTUNITY OCCUR?	OPPORTUNITY TYPE	PRIMARY CLIMATE-RELATED OPPORTUNITY DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Direct operations	Resource efficiency	Use of more efficient production and distribution processes	Reduced direct costs	Lower operational costs through more efficient processes: It is possible to have a positive impact on profits through operational efficiency directed to reduce scope 1 and scope 2 CO ₂ emissions. This can be achieved through the development of projects complying to Argos' climate strategy drivers, e.g., optimize thermal and electric energy consumption, use of alternative fuels and reduce our clinker to cement ratio.	Short-term	Virtually certain	Medium-Low

POTENTIAL FINANCIAL IMPACT FIGURE (CURRENCY)		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
\$ 16.779.549.267	4.477.842	NA	NA	NA	NA	Reported figures correspond to estimated annual monetary savings from the CO ₂ emissions reduction initiatives that were implemented by Argos within the reporting year 2021. These initiatives are related to the mitigation levers of CO ₂ emissions in the cement process: substituting conventional by alternative fuels, reduction of clinker cement ratio, reduced power consumption due to improvements in electrical efficiency, reduced heat consumption due to improvements in thermal efficiency, and sustainable mobility.

STRATEGY TO REALIZE OPPORTUNITY AND EXPLANATION OF COST CALCULATION	COST TO REALIZE OPPORTUNITY		COMMENT
<p>Argos' Climate Change Strategy is focused on minimizing climate change-related risks and maximizing opportunities through innovation in processes and products to ensure the sustainability of the Company and its value chain. It defines the company's actions to mitigate and adapt to climate change through initiatives such as increasing operational efficiency, using alternative fuels, reducing clinker content in cement and developing new products and services with sustainability characteristics along the value chain.</p> <p>Likewise, lower operational costs could be achieved through the implementation of the Operational Excellence program, which seeks to optimize resources consumption & maximize benefits to achieve organizational excellence and competitiveness, focus on operational efficiency especially on energy efficiency, the optimization of production, the optimization of logistics & transport processes, & the application of circular economy models.</p>	<p style="text-align: center;">COP</p> <p style="text-align: center;">\$ 33.367.303.385</p>	<p style="text-align: center;">USD</p> <p style="text-align: center;">\$ 8.904.501</p>	

OPP 3

WHERE IN THE VALUE CHAIN DOES THE OPPORTUNITY OCCUR?	OPPORTUNITY TYPE	PRIMARY CLIMATE-RELATED OPPORTUNITY DRIVER	PRIMARY POTENTIAL FINANCIAL IMPACT	COMPANY- SPECIFIC DESCRIPTION	TIME HORIZON	LIKELIHOOD	MAGNITUDE OF IMPACT
Direct operations	Products and services	Development of new products or services through R&D and innovation	Increased revenues through access to new and emerging markets	New products and services derived from carbon capture technologies: since 2008 Argos has been working on a carbon capture project through microalgae. With the support of the Eafit University, Ruta N and the University of Antioquia, the system has allowed different microalgae to absorb CO ₂ (they do so 50 times more than plants or trees), capture solar energy and generate biomass, which has potential for biofuel production.	Long-term	More likely than not	Unknown

POTENTIAL FINANCIAL IMPACT FIGURE (CURRENCY)		POTENTIAL FINANCIAL IMPACT FIGURE – MINIMUM		POTENTIAL FINANCIAL IMPACT FIGURE – MAXIMUM		EXPLANATION OF FINANCIAL IMPACT FIGURE
COP	USD	COP	USD	COP	USD	
NA	NA	NA	NA	NA	NA	We do not yet have a potential financial impact figure for this opportunity.

STRATEGY TO REALIZE OPPORTUNITY AND EXPLANATION OF COST CALCULATION	COST TO REALIZE OPPORTUNITY		COMMENT
	COP	USD	
<p>The system's pilot test was developed in Cartagena with photobioreactors, where the microalgae live, and the CO₂ captured from the chimneys is injected. Subsequently, in the laboratory, biomass is transformed to obtain cost-efficient biocrude, through a process developed together with the University of Antioquia. In 2020, based on preliminary life cycle analysis studies, this technological solution's contribution on the emission reduction was proven. The new knowledge generated allowed the company to apply for a new patent that is in the process of registration. Reported figures correspond the approximate amount of investments in the microalgae project in Colombia to this date.</p> <p>The next step is to expand the reach of the technology through a larger-scale CO₂ capture and transformation plant at one of our plants in the United States. This project, should it be approved, would represent an investment of approximately USD 9 million.</p>	\$ 3.000.000.000	\$ 800.589	