



# **CLIMATE CHANGE RISKS AND OPPORTUNITIES**

**BASED ON TCFD RECOMMENDATIONS**

# SUMMARY

Argos' processes for identifying, assessing, and managing climate change related risks and opportunities are integrated into a multidisciplinary company-wide risk management framework. The Company supports its risks management through the Integrated Risk Management System (IRMS), which is based on the ISO 31000 & COSO-WBCSD Enterprise Risk Management standards. The IRMS enables Argos the successful execution of its strategy, through

following processes: the **identification** of possible risk scenarios considering materiality, global trends and company strategic framework; the **assessment** of the level of exposure to all risks; the **management** through action plans including adaptation and continuity plans and the corporate insurance program; the **monitoring** of effectiveness of action plans, and the **reporting** to the Board of Directors

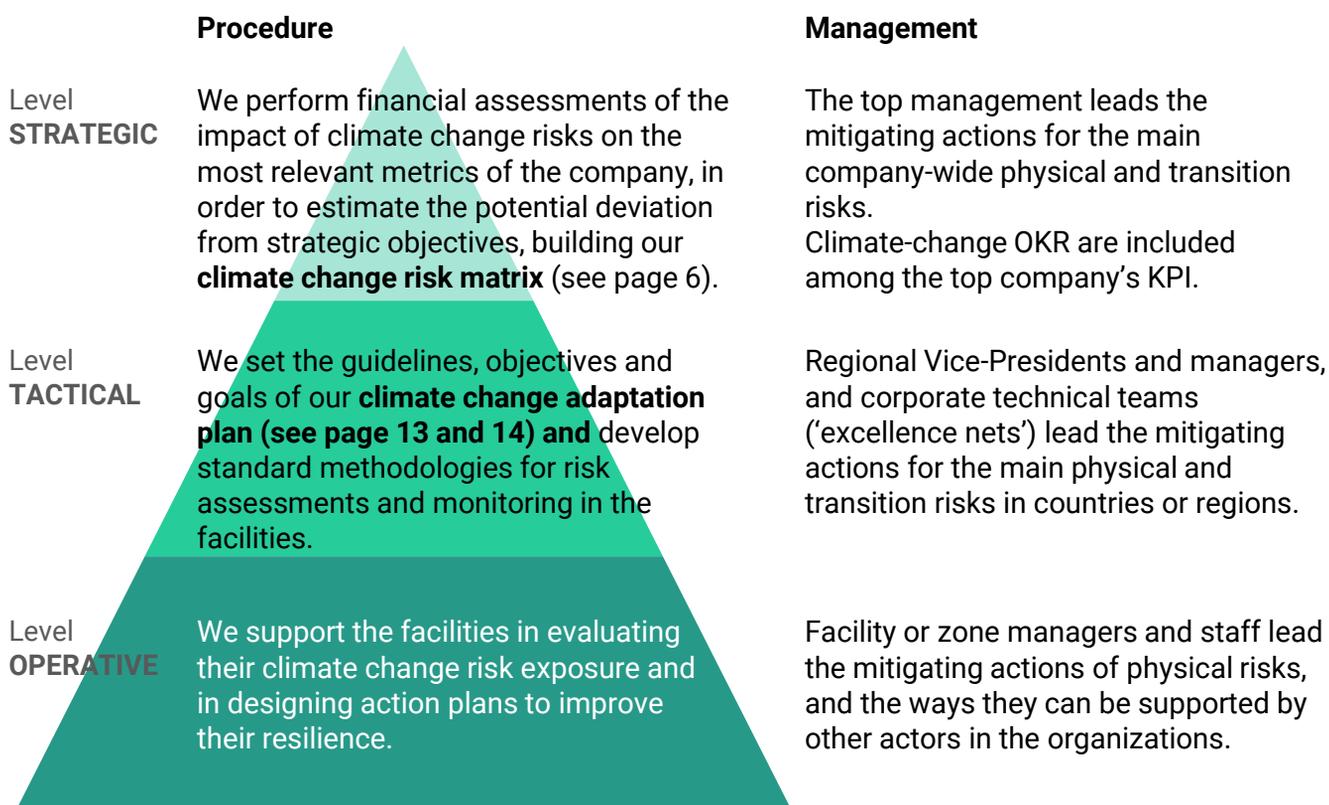
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## CLIMATE CHANGE

# RISK MANAGEMENT FRAMEWORK

Our Integrated Risk Management System (IRMS) is aligned with the best practices and based on international standards such as ISO 31000 and COSO-WBCSD, which are recognized by different stakeholders and worldwide. Climate change risks and opportunities might impact the achievement of our strategic objectives, and hence they are addressed under the IRMS framework, aligned with the guidelines from relevant standards regarding carbon disclosure and climate change management. Climate change risks are managed at all levels of the company (strategic, tactical and operational), making them a company-wide

priority, which is integrated to all processes throughout the organization (see graph below). Climate change risks are identified and assessed at a strategic level and periodically reported to the Audit, Finance and Risk committee, which supports the decision-making of the Board of Directors. As these risks can deviate us from our company's strategy (sustainability and corporate strategies), a climate change risk matrix is built under qualitative and quantitative criteria (see page 4 and 5), and it is reported and updated



See further information at Argos' Corporate Governance website ([click here](#)) and Argos' Integrated report, Risks chapter ([click here](#)).

At Argos, climate change risk management is a top-down and bottom-up integrated team effort in which the areas responsible for risk management, environmental, energy management, logistics, production and decision-

making work together. We align ourselves with global reporting standards (CDP, TCFD), good practices and new developments to support the fulfillment of commitments and actions that increase organizational resilience.

## TCFD framework in Argos' risk management

The IRMS enables Argos the successful execution of its strategy, through the consideration of four thematic areas that are core elements of how an organization operates: Governance, Strategy, Risk management, and Metrics & Targets. These elements are the same that TCFD recommends as a framework for disclosing and reporting to stakeholders the company's exposure to the various risks and opportunities of climate change.

In 2020 the Company voluntarily aligned with the recommendations made by the Financial Sustainability Board (FSB) regarding climate related financial disclosures (TCFD) and began to report and disclosure the details of its climate risk management under the specific recommendations of this framework. The TCFD table published by Argos maps how public disclosures of the company cover all relevant aspects (Argos's lineup with TCFD: <https://bit.ly/3uzFU2J>). This TCFD report evidences that the identification, evaluation and effective management of the risks and opportunities related to climate are integrated to company risk management process.

As the company had been carrying out the CDP report since 2015, then it had already incorporated the TCFD recommendations into its climate risk management. CDP has committed to align its questionnaires with the TCFD, therefore the adoption of TCFD recommendations by Argos was facilitated thanks to this existing harmonization between both reports.

Argos considers that the TCFD framework is fully integrated into its management system of climate-related risks and opportunities as the company has aligned the four core recommendations defined by TCFD to its IRMS. Below are the best practices adopted by Argos and main challenges to tackle in its Climate Risk Management:



### Governance

The Sustainability and Corporate Governance Committee is the highest body where the Climate Change Strategy and its evolution are reviewed. Likewise, Climate change risks, which are updated annually, are reported to the Audit, Finance and Risk Committee from the Board of Directors.

### Strategy

- Annual update of the climate change risks and opportunities matrix.
- Alignment with Argos' strategic and emerging risks.
- Argos is defining Adaptation Plans to physical risks, considering the results given by scenario analyses.
- Use of scenario analyses, under bottom-up methodology, to calculate the 2030 target of reducing direct and indirect CO<sub>2</sub> emissions.
- Main gap: better inclusion of impact of climate change risks & opportunities in the financial planning of the company.

### Risk Management

The processes for identifying, analyzing, evaluating, managing and monitoring climate change risks are aligned with the company's IRMS. We create risks scenarios to assess the financial impacts.

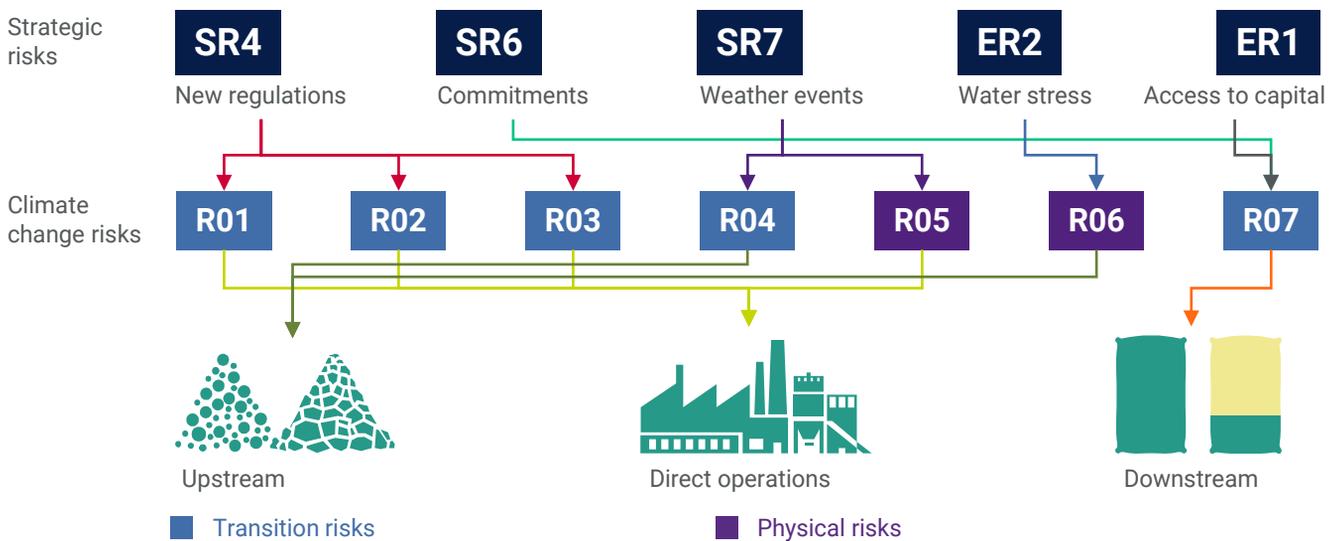
### Metrics and targets

- Existence of CO<sub>2</sub> scope 1 target
- Company is in the process of defining CO<sub>2</sub> scope 2 target
- Adherence to SBTi
- Company is preparing information to submit its targets to be evaluated by SBTi
- Quantification of scope 3 emissions relevant to the sector
- Main gap: strengthen the implementation of Internal Carbon Pricing and increase the percentage of renewable energy purchase.

# RELATIONSHIP BETWEEN STRATEGIC AND CLIMATE CHANGE RISKS

Our climate change risk matrix counts on seven risks that are directly related to the company's top risks, strategic and emerging, depending on the time horizon in which they would be materialized. Thus, even if a climate change risk counts on a very specific denomination in the matrix (e.g., "increases in carbon pricing costs") it can be

viewed as a particular scenario on a top company risk (e.g., "new policies or changes in regulations that affect the company's value creation"). The relationship between strategic, emerging and climate change risks is illustrated below, depending on the segment of the value chain they affect.



For more information on Argos' strategic and emerging risks, [click here](#).

The climate change risk matrix counts on different impact scales (economic, reputation, information and H&S); as well as scales of probability of occurrence, which form their overall risk profile. Climate change risk are assessed qualitative and quantitatively. Probability assessments are obtained through experts' criteria and quantitative impacts are estimated through scenarios based on stochastic modeling under the Value at Risk (VaR) approach and are reported to the Board of Directors, so they are aware of potential deviations caused in the annual financial planning model.

Argos' three first climate change risks (R01 to R03, see detail on page 9 and 10) are related to different carbon pricing schemes that may affect our cement operations. For 2020 analysis

scenarios regarding Emissions Trading Systems and increases on Nationally Determined Contributions were applied to all countries in which we produce cement in integrated plants, and scenarios regarding carbon taxes were applied only in the country in which public debate is currently being held (Colombia for now). Argos' energy scenario (R04) was applied to the current Colombian regulation, although the Company is currently exploring other mechanisms in which energy prices (i.e., electricity or fuel prices) may be affected by climate change.

Argos counts on physical risk assessment for all our operations (R05 and R06), and the risk regarding access to capital is materialized and managed at the corporate level for the entire company (R07).

# CLIMATE CHANGE RISK MATRIX

Our Integrated Risk Management System (IRMS) allows analyzing and prioritizing our risks according to a heat map that comprises preestablished probability and impact scales:

**Likelihood:**

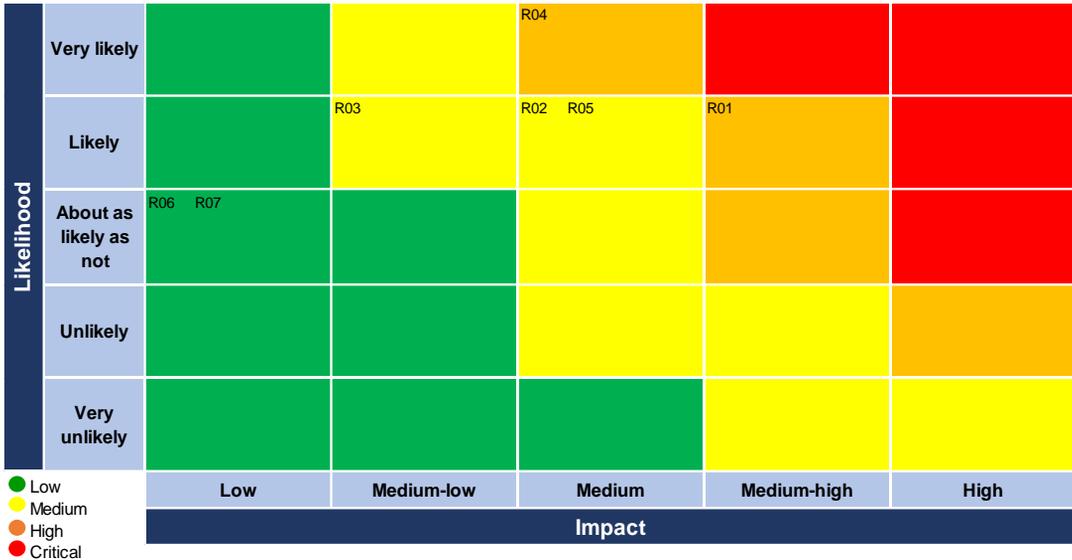
- Probability of occurrence of an event over a 10-year span.
- Qualitative assessment.
- Scales given by the company’s IRMS probability thresholds, aligned with the CDP guidelines.

**Impact:**

- Negative deviations (losses) from the annual consolidated EBITDA.
- Quantitative assessment (Value at Risk).
- Scales given by the company’s IRMS risk appetite and tolerance thresholds.

Detailed descriptions on financial impacts, further metrics and targets are available in:

- Submissions to the CDP 2020 ([click here](#))
- Climate change indicators, pages 14 to 28 ([click here](#))



**R01** Increased carbon pricing costs due to changes to the nationally determined contributions (NDC) defined by international agreements.

**R02** Implementation of Emission Trading Systems (ETS) in the countries where the company operates.

**R03** New or higher carbon taxes on emissions or fossil fuel consumption.

**R04** Increase in energy prices

**R05** Occurrence of natural events that significantly affect the operations, business continuity, market share and the company's equity.

**R06** Depletion of water resources for the continuity of the operation due to climate change and ecosystem degradation.

**R07** Restrictions on access to capital as it is an intensive process in CO<sub>2</sub> emissions.

- Transition risks
- Physical risks

# TRANSITION RISKS

Argos belongs to a productive sector that is intensive in CO<sub>2</sub> emissions, especially due to the use of heat energy and the occurrence of chemical reaction of decarbonation in the clinker production process. This condition exposes the company to various transition risks, understood as those that occur in the context of the transition to a low-carbon economy.

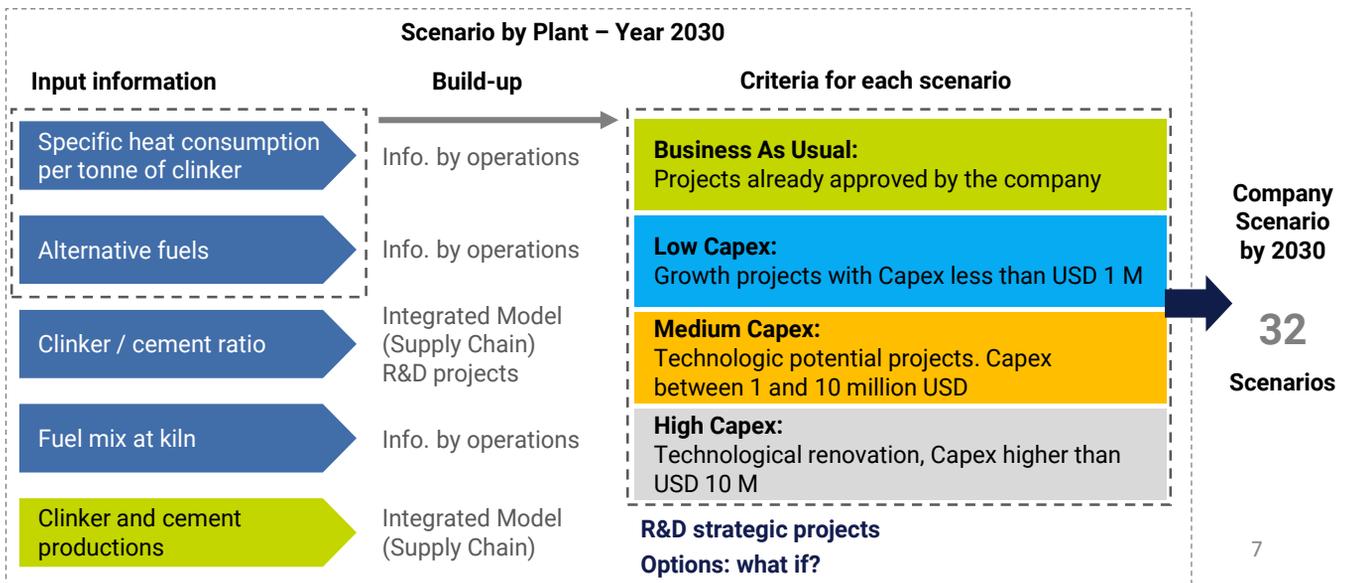
In this way, political, regulatory, technological and market changes, which are emerging with increasing frequency (many of which are already current) and at the global level in response to global climate action, could generate financial and reputational impacts of different magnitude and probability for the company. Therefore, this changing and challenging environment leads to consciously understand and identify risks and opportunities associated with the climate, evaluate its impacts and establish innovative and effective mitigation and adaptation measures that enable us to be resilient to this phenomenon, and finally be sustainable over time.

Argos recognizes that the mitigation line of work of its climate change strategy is the main mechanism to prevent and reduce its climate-

related transition risks. Therefore, Argos aligned itself with the global agenda to face climate change (Paris Agreement, ODS) and updated in 2020 the goal of reducing CO<sub>2</sub> emissions, setting a new target by 2030. In early 2021, the company joined to the Science Based Target initiative, thus materializing its commitment to align its climate mitigation targets with the most ambitious aim of the Paris Agreement.

In 2020 a bottom-up scenario analysis was carried out to establish the target of reducing specific net CO<sub>2</sub> emissions by 2030 aligned with the Company's business model and with sustainability agendas established by several mandatory and voluntary initiatives worldwide, such as the NDCs (Nationally determined contributions), the Science Base Targets initiative, ODS, FICEM CO<sub>2</sub> roadmaps, among others. These scenarios were built for each of the cement plants, and later, those results were consolidated in a final scenario to obtain the projection of CO<sub>2</sub> emissions at Regional and Company level. CO<sub>2</sub> emissions were modeled under the methodology of The Cement CO<sub>2</sub> & Energy Protocol (WBCSD-CSI, 2011) (<https://bit.ly/1SmzAjU>).

## Methodology for projecting of CO<sub>2</sub> scenarios: bottom-up scenario analysis

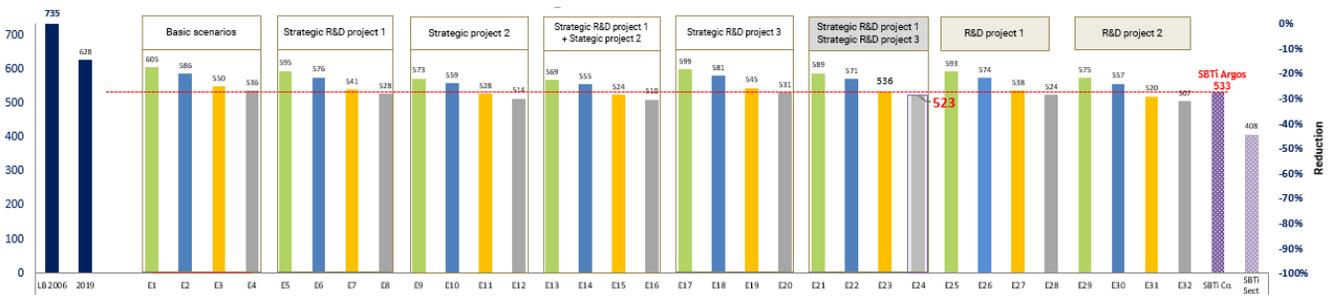


In 2020 the Argos Climate Change Strategy was updated and the target of achieving **523 kg net CO<sub>2</sub>/t cementitious product** by 2030 was established, which is equivalent to reduce 29% with respect to 2006 baseline. This reduction target was calculated using scenario analysis, which enabled Argos an understanding of how the Company can mitigate its transition climate risks through its performs in terms of CO<sub>2</sub> emissions under different operating conditions and market processes, and how the company can contribute to the fulfillment of the objectives of the Paris Agreement, through its CO<sub>2</sub> targets aligned with the Science Based Targets initiative.

modeled by some technical studies of recognized entities in climate issues such as IEA at SBT Tool, which uses the ETP B2DS (Beyond two-degree scenario as defined in IEA "Energy Technology Perspectives" (2017) as basis for analysis and which had as result 533 kg CO<sub>2</sub>/t cementitious product. These IEA models are incorporated in the SBT Tool, which also offers for cement sector the Sectoral Decarbonization Approach (SDA) scenario. Considering a Fixed market share (as projected output measure) in the SBT Tool, Argos confirmed that the Company's climate change strategy is ambitious and responds to the global challenge of effectively contributing to a low carbon economy and move towards to obtain carbon neutral concrete by 2050.

Results obtained from this climate change scenario were compared with CO<sub>2</sub> emissions

### CO<sub>2</sub> scenarios - by 2030



The following graph shows the result obtained at company level with the scenario analysis by year 2030 for the calculation of CO<sub>2</sub> scope 1 emission reduction target.

### Selected Scenario: grey band (Technological renovation, target 523 kg CO<sub>2</sub>/t cementitious product [kg CO<sub>2</sub>/t cementitious product])



# TRANSITION RISKS

## OVERVIEW

### **RO1** Increased carbon pricing costs due to changes to the nationally determined contributions (NDC)

The COP21 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 nationally determined contributions (NDCs). Implementing these targets will involve further pressure on industries with an intensive use of fuels, energy and CO<sub>2</sub> emissions.

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 main implications for Argos' operations might be materialized through, for example, the implementation of economic instruments (taxes or CO<sub>2</sub> trading schemes) and incentives.

*Scope and focus* of these scenarios: potential financial impacts in own operations due to changes in legislations (carbon pricing mechanisms).

### **RO2** Implementation of Emission Trading Systems (ETS) in the countries where the company operates

CO<sub>2</sub> 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. According to the climate change management law passed in 2018, Colombia aims to implement a National Program of Greenhouse Gas Tradable Emission Quotas. In addition, ETS are in force or being scheduled in the states of California, Washington, Oregon, New Mexico, Virginia, New Jersey, Massachusetts, plus the Regional Greenhouse Gas Initiative (RGGI). An ETS being implemented implies a direct cost on our cement production, which is the most representative business in terms of CO<sub>2</sub> emissions.

*Scope and focus* of these scenarios: potential financial impacts in own operations due to changes in legislations (carbon pricing mechanisms).

For further information on this risk's taxonomy, methodology, valuation assumptions and quantified impacts, click [here \(page 14\)](#).

#### **Estimated financial impact**

Financial impacts are **medium-high**, calculated as the average annual cost overruns of not reducing our global CO<sub>2</sub> emissions up to the NDC levels, if a carbon pricing scheme were put in place in all the countries we operate.

#### **Overall risk exposure (risk matrix)**

## HIGH

Carbon pricing schemes are **likely** to be implemented, hence this risk is of **high** exposure, according to our corporate IRMS and appetite and tolerance thresholds.

For further information on this risk's taxonomy, methodology, valuation assumptions and quantified impacts, click [here \(page 16\)](#).

#### **Estimated financial impact**

Financial impacts are **medium**, calculated as the the average annual cost overruns of not reducing our global CO<sub>2</sub> emissions, considering the current conditions (thresholds, allowances and carbon prices) of existing ETS.

#### **Overall risk exposure (risk matrix)**

## MEDIUM

Emission Trading Systems are **likely** to be implemented, hence this risk is of **medium** exposure, according to our corporate IRMS and appetite and tolerance thresholds.

## **R03** 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. In 2016, a tax reform in Colombia approved the carbon tax on consumption and imports of liquid fuels and natural gas. Currently, a public debate is taking place regarding a tax base widening towards coal which may amount to 43.635 COP (13,3 USD under the 2019 exchange rate) per tonne of carbon, according to the recently passed Clean Growth and Sustainable Development Bill. This will have a direct financial implication on Argos' operational costs. 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.

*Scope and focus* of these scenarios: potential financial impacts in Argos own operations due to changes in legislations (carbon pricing mechanisms)

## **R04** Increase in energy prices

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 higher prices. 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 (or coal) to supply our self-generating capacity.

This is considered a transition risk despite being triggered by a climate phenomenon such as El Niño, because it is materialized via the existing regulatory framework for guaranteeing electricity reliability in Colombia during scarcity periods.

*Scope and focus* of these scenarios: potential financial impacts due to energy market changes in Argos upstream activities.

For further information on this risk's taxonomy, methodology, valuation assumptions and quantified impacts, click [here \(page 18\)](#).

### **Estimated financial impact**

Financial impacts are **medium-low**, calculated as the average annual cost overruns of maintaining our Business-As-Usual coal consumption, if the tax base of the existing carbon tax in Colombia is widened\*.

### **Overall risk exposure (risk matrix)**

# **MEDIUM**

Carbon taxes are **likely** to be implemented, hence this risk is of **medium** exposure, according to our corporate IRMS and appetite and tolerance thresholds.

For further information on this risk's taxonomy, methodology, valuation assumptions and quantified impacts, click [here \(page 20\)](#).

### **Estimated financial impact**

Financial impacts are **medium**, calculated as the estimated average loss in a worst-case-scenario (no self-generation capacity), if scarcity conditions affect the energy market.

### **Overall risk exposure (risk matrix)**

# **HIGH**

An ENSO weather phenomenon is **very likely** to occur in the following years, hence this risk is of **high** exposure, according to our corporate IRMS and appetite and tolerance thresholds.

## R07

### Restrictions on access to capital, credits and the like, as it is a production process that is intensive in CO<sub>2</sub> 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 CO<sub>2</sub> emissions are being 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 can follow emerging trends in other regions.

*Scope and focus:* potential impacts from reputational risk (downstream activities).

\*: estimated impacts are currently reviewed and updated.

For further information on this risk's taxonomy, methodology, valuation assumptions and quantified impacts, click [here \(page 24\)](#).

#### Estimated financial impact

Financial impacts are **low\***, calculated as the short-term impacts from reputational events related to ESG criteria.

#### Overall risk exposure (risk matrix)

## LOW

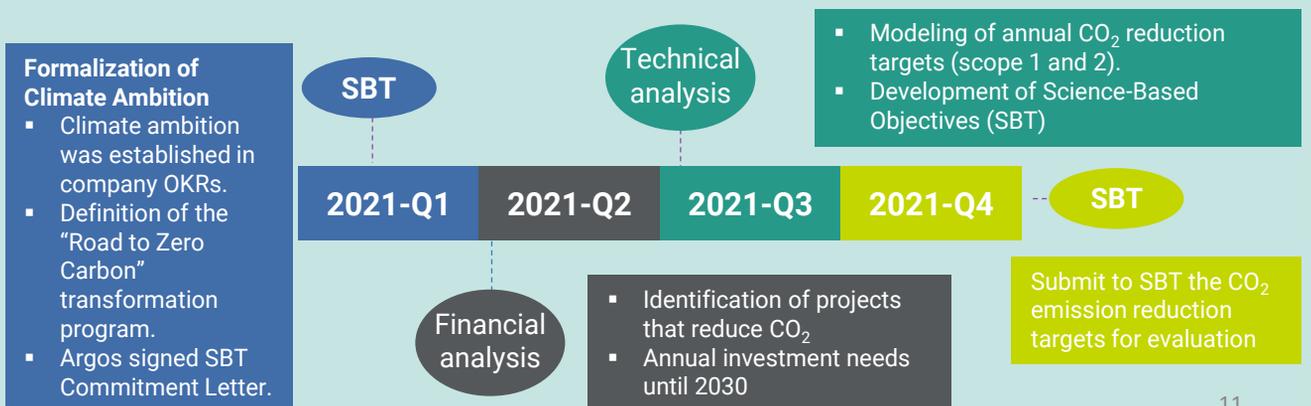
Events related to this risk have a **medium likelihood** to occur in a 10-year span, hence this risk is of **low** exposure, according to our corporate IRMS and appetite and tolerance thresholds.

## ARGOS CO<sub>2</sub> ROADMAP

Argos has been able through the transitional scenario analyses to understand both positive and negative implications of climate change, and therefore answer with commitments and actions. Thanks to the scenario analysis the company's new CO<sub>2</sub> reduction target was calculated (**523 kg CO<sub>2</sub>/t cementitious product**). This target will mark the Argos Climate Change strategy, enabling it to significantly limit its CO<sub>2</sub> emissions and therefore, preventing and mitigating the impacts that could

occur if the transition risks materialize.

To achieve this new target, in 2021 Argos will build the roadmaps to reduce CO<sub>2</sub> emissions by 2030, annualized and for each region, also through scenario analysis methodology under a bottom-up approach, and detailing the technical strategies for mitigation and the required investment plan (see graph below).



## 2020 PROGRESS

# MANAGING TRANSITION RISKS

In 2020 Argos continued implementing initiatives related to the company's climate change strategy, specifically with the lines of action that promote the mitigation of CO<sub>2</sub> emissions. These actions involved investments of approximately USD \$ 1.9 million (6.899 million COP). There was a significant reduction in 2020 compared to 2019 in the investments to mitigate climate change, given that most of the commissioning phase of the calcined clays project at Rioclaro Plant took place between 2018 and 2019 and represented around 98% of the total climate change mitigation investments. In 2020 the calcined clay project began operations starting to produce artificial pozzolans to substitute clinker in Rioclaro's portfolio products.

Currently, Argos' climate change mitigation initiatives are, among others:

- During 2020, the calcined clay project began a stage of stabilization and optimization. Seven runs were carried out throughout the year, which allowed to enhance and stabilize the use of calcined clays (or artificial pozzolans) in cement, guaranteeing the final product's quality. Likewise, industrial tests were carried out using artificial pozzolan in the Structural Max cement, exceeding the expected results. This will allow the use of artificial pozzolans in all the products of the Rioclaro plant portfolio.
- We increased the substitution of conventional fuels (coal and pet coke) with alternative fuels (tires, mixed industrial waste, RDF, used oils, biomass, etc.), achieving a global 6,2% rate.
- Our Research and Development team (R&D) continued developing low carbon processes, products and solutions that will reduce CO<sub>2</sub> emissions at various stages of our value chain. In 2020, Argos dedicated 59% of its total R&D budget to researching and developing low-carbon products\*.
- Enhancements in operation and stability of kilns in various cement plants in Colombia, which generated savings in thermal energy.
- Implementation of initiatives to reduce electricity consumption, such as: use of excess gases from the clinker cooler in the cement

mill (Piedras Azules Plant), implementation of a Digital Twin that allows the mill to be operated remotely, optimizing its operation (Dominican Republic Plant), among others.

- Our Harleyville plant won the The Portland Cement Association (PCA)'s 2020 Energy and Environment (E&E) Awards in the Energy Efficiency category. This plant has been focusing on improving overall energy management by reducing kiln specific heat consumption and increasing the utilization of the new vertical cement mill (VCM), which in turn lowered overall power consumption.
- The U.S. Environmental Protection Agency (EPA) recognized our Roberta and Harleyville cement plants with the ENERGY STAR® certification for the fourth consecutive year.
- Argos reached 31.4% of renewable energy from its purchased electric power matrix.
- In 2020 we committed to the Climate Ambition Plan promoted and launched by the GCCA (Global Cement and Concrete Association), which meant belonging to the set of 40 companies that signed the ambition to produce carbon-neutral concrete in 2050.
- During 2020, the company's Climate Change Roundtable was set up, where issues associated with the company's performance on climate change are discussed in a comprehensive manner: direct and indirect emissions, quantification methodologies, mitigation scenarios, risks and opportunities, R&D mitigation initiatives, among others.

Further information can be found at Argos' 2020 Integrated Report, climate change chapter.



\*: defined by the company as products that have lower carbon footprint than the industry-average carbon footprint.

# PHYSICAL RISKS

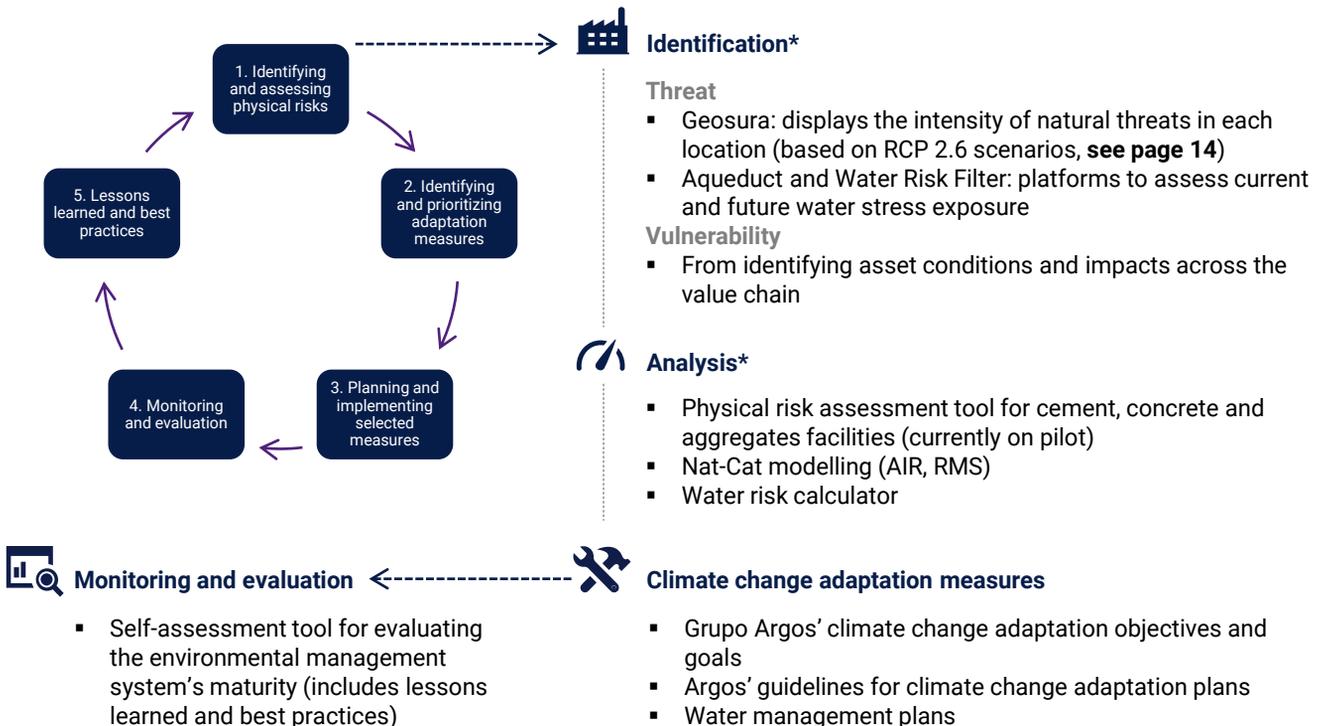
The company's businesses are exposed to extreme weather events (e.g., hurricanes in the US and the Caribbean and Central America), so the likelihood and severity of these events are assessed and monitored at a strategic level. These events affect assets and business continuity, which translates into operational losses, asset damage and increases in the cost of insurance.

For current threats, the company evaluates periodically the exposure of weather events of all facilities, relying on methodologies such as AIR and RMS models and our supply chain modelling, which quantify financial losses in assted damage and business continuity and hence enable making better informed risk transfer and retention decisions, as part of our corporate insurance program. In addition, each facility has emergency, contingency and continuity plans to respond to threats that affect operations in a timely manner.

hazards will increase in frequency and severity as global temperatures rise. Therefore, all facilities are currently designing **climate change adaptation plans**, which comprise the identification, analysis and evaluation of physical risks affecting the operation based on context-specific threats and vulnerabilities.

Physical risks analyses constitute an input to identify and prioritize adaptation measures that are adjusted to each operation's reality. Identified measures are then designed, and their implementation is planned. After a certain time, the changes induced by the measures adopted must be monitored and evaluated, to guarantee continuous improvement. Plus, the expansion of capacities and resources must be sought towards an increasingly robust climate change adaptation. Lessons learned and best practices will be communicated to all groups involved in the process.

However, Argos is aware that exposure to natural



\*: the identification and assessment of physical risks apply to 93% of our assets and 64 critical suppliers.

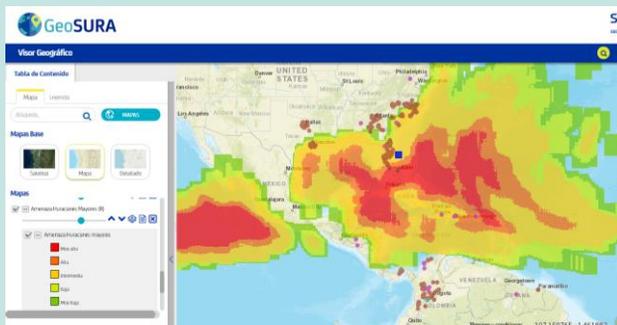
# CONTEXT-SPECIFIC RISK ASSESSMENT

Geosura is an ecosystem of applications that enables the interconnection of thematic databases, the interactive analysis in a geographic environment, and the estimation of indicators for businesses. Geosura's **geographic viewer** allows to graphically observe the relationship between the location of facilities or points of interest with maps of natural hazards, urban potential, among others. For Argos' physical risk assessment, we count on information available for 14 threats, namely floods, landslides, hurricanes, atmospheric discharges, tropical depression, frost, major hurricanes, forest fires, heavy rains, heat waves, droughts, gales, winds, and rise in sea level.

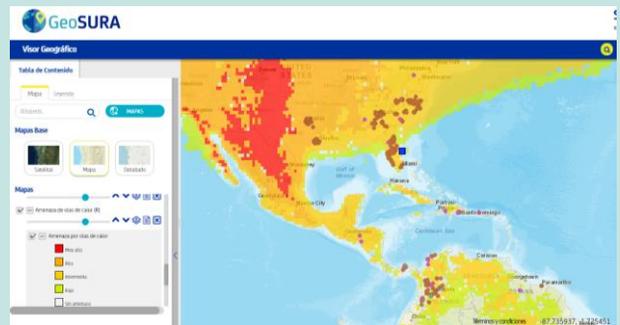
Geosura's natural hazard analyses contemplate

four greenhouse gas concentration scenarios: RCP 2.6; 4.5; 6.0 and 8.5. To evaluate implications of climate change, 2 scenarios are taken, one optimistic and one pessimistic. Currently, RCP 2.6 is being used as an optimistic scenario, which assumes that the radiative forcing (energy accumulated in the earth) for 2100 will reach 2.6 W / m<sup>2</sup> (watts per square meter-Energy/area), which translates into a global average temperature between 0.3°C and 1.7°C .

The identification and analysis of physical risks per installation is a process that will continue to be strengthened as we better understand the impacts that are beginning to materialize, and the adaptation measures that we must begin to implement in the facilities.



Major hurricanes



Heat waves

## CLIMATE CHANGE ADAPTATION MILESTONES:

### 2020:

- Threat assessments were updated for all locations by our insurance company.
- Adaptation objectives and goals were defined together with Grupo Argos.
- Guidelines for climate change adaptation plans were socialized to all facilities.

### 2021:

- A standardized physical risk assessment tool will be designed and shared with all facilities so each operation can identify their exposure based on threat and vulnerability criteria.
- At the end of the year, our facilities will know their exposure to physical risks.

### 2022:

- Facilities must identify, prioritize and plan adaptation measures to reduce their exposure to physical risks.
- Those measures that will require significant investments will be escalated to the company's financial planning.
- The mechanisms for monitoring and evaluation of selected measures will be updated.

### 2023:

- Prioritized and planned adaptation measures will start their implementation phase, together with monitoring and evaluation mechanisms.

# PHYSICAL RISKS

## OVERVIEW

### **RO5** Occurrence of natural events that significantly affect the operations, business continuity, market share and the company's equity

Argos operates in areas which are highly vulnerable to extreme weather events, such as hurricanes and floods. These risks foster the need to frequently monitor potential impacts from extreme weather events on our operations 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.

### **RO6** Depletion of water resources for the continuity of the operation due to climate change and ecosystem degradation

Because of environmental deterioration, climate change and climate variability, exposure to changes in the amount of water that can affect direct operations is increased, restricting water access for the facilities and their surrounding communities. This may permanently and continuously increase operational costs for each facility regarding energy consumption, production, and water management.

Risk exposure to chronic physical risk is assessed through the WRI's Aqueduct, the Water Risk Filter (WRF) and the Global Water Tool, which enable to prioritize and implement water management plans and targets defined by the Environmental Strategy.

For further information on this risk's taxonomy, valuation assumptions and quantified impacts, click [here \(page 21\)](#).

#### **Estimated financial impact**

Financial impacts are **medium**, calculated as the average property losses from extreme weather events (hurricane, wind and storm surge, precipitation flood) in all our locations.

#### **Overall risk exposure (risk matrix)**

## MEDIUM

Extreme weather events are **likely** to occur in a 10-year span, hence this risk is of **medium** exposure, according to our corporate IRMS and appetite and tolerance thresholds.

For further information on this risk's taxonomy, valuation assumptions and quantified impacts, click [here \(page 23\)](#).

#### **Estimated financial impact**

Financial impacts are **low**, calculated as the projected annual cost overruns in water consumption from higher water stress levels in our facilities' locations in approximately ten years.

#### **Overall risk exposure (risk matrix)**

## LOW

Significant water stress increases have a **moderate** likelihood to occur in 10 years, hence this risk is of **low** exposure, according to our IRMS and appetite and tolerance thresholds. The exposure might increase considering longer time spans.

# CLIMATE CHANGE OPPORTUNITIES

Climate change opportunities arise from the need for innovative solutions to address our strategic risks, especially regarding new challenges derived from changes in the value chain of construction and our customers' needs, commitments with our stakeholders and natural resource scarcity (see graph).

Opportunities are assessed through an integration of top-down and bottom-up approaches. The company defines its strategic priorities, which are evaluated and monitored by the corporate Business Strategy and marketing teams. These priorities frame Argos' commercial and innovation initiatives (i.e., 'Smart Construction' and 'Road to Zero'). In addition, in 2020 we formed an interdisciplinary task force whose main objective is to continue to position ourselves as a strategic ally of our clients for the design and construction of projects with sustainability characteristics, through a range of products and services that respond to their needs (see Green Solutions Portfolio).

Facilities, on the other hand, identify opportunities via SWOT Analyses. Each component of the facility's SWOT matrix is assessed considering their feasibility and impact, and the most relevant are submitted to IDEAXION, a corporate platform which enables transmitting ideas to the Innovation, Environmental and Strategy teams. A business case is developed for those which represent relevant business opportunities, which is evaluated and approved by the corporate Financial Planning department. Once opportunities have been identified and approved, special teams are formed to define and perform the project.

## Strategic risks and climate change opportunities



**001** Lower operational costs through more efficient processes

**002** Increased market opportunities via Green Solutions Portfolio

## Climate change opportunities management





Co-processing, Cartagena plant

It is possible to have a positive impact on profits through operational efficiency directed to reduce scope 1 and scope 2 CO<sub>2</sub> 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 clinker to cement ratio.

### Financial impact

We expect annual savings by implementing energy efficiencies and projects related to substituting conventional by alternative fuels. These savings will be generated by achieving the 2025 energy policy goals and the alternative fuels roadmap, by decreasing heat consumption by 10 percent and electricity consumption by 15 percent, plus substituting conventional with alternative fuels by 18%.

## CARBON CAPTURE THE MICROALGAE PROJECT

We successfully continued with the pilot system's tests with real CO<sub>2</sub> capture conditions at the Cartagena Plant. In 2020, operating conditions were identified to increase the transformation with microalgae and the generation of improved biomass to obtain fuels. Similarly, together with the University of Antioquia, a process to transform biomass into more cost-efficient biocrude was developed. Based on preliminary life cycle analysis studies, this technological solution's contribution on the emission reduction was proven. The new knowledge generated allowed us to apply for a new patent that is in the process of registration. The next step is to expand the reach of the technology through a larger-scale CO<sub>2</sub> capture and transformation plant at one of our plants in the United States.



Microalgae, Argos Colombia

## 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.

We highlight in this portfolio the following categories of products that contribute to the mitigation and adaptation of climate change: 1. Low carbon products and 2. Adaptation and circular economy. A third line of products is focused on increase the people’s well-being.

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. **To promote well-being:** concrete aimed to increase well-being by, for instance, reducing the heat-island effect or other negative impacts on people.

The Green Solutions portfolio additionally covers industrialized, packaging and digital solutions to our customers.

### Financial impact

We expect revenues from sales of products (low-carbon plus adaptation and circular economy) that contribute to climate change mitigation and adaptation.

Further information about the Green Solutions portfolio can be found at:

- Argos’ 2020 Integrated Report chapter: ‘Adaptation to market dynamics’.
- Climate change indicators, page 27 ([click here](#)).
- “Green solutions, conscious innovation” website ([click here](#))



Low-carbon products in Colombia (up) and Honduras (down).

