



**VALUE ADDED STATEMENT  
TO SOCIETY – VAS**  
2019



**GRUPO ARGOS**

# About this Report



The main purpose of the Value Added Statement to Society is to show the relative importance of our externalities. The calculations included in this statement do not reflect our past, present or future income and do not make part of our financial information.

Our VAS results must be considered as illustrative, since they are calculated by using a customized model based on a set of assumptions. The current approaches might be refined as new studies become available. In the coming years, the results of the prior evaluations of VAS might be re-expressed in accordance with new methodological adjustments.

Although we make an effort to provide accurate and timely information in this statement, we cannot ensure an accurate description of reality. Therefore, measures based on the information disclosed in this report must not be taken without the prior technical advisory and an exhaustive analysis of the specific situation.

For further information about our VAS, you can contact Cristina Arias, Sustainability Sr Director of Grupo Argos at [cariase@grupoargos.com](mailto:cariase@grupoargos.com).



■ Cementos Argos plant  
Rioclaro, Antioquia

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■ **Celsia Solar Bolívar**  
Bolívar, Colombia

# Introducción

## RECOGNITION:

The organization WVN - We Value Nature, published a case study, in which our VAS stands out as a way of evaluating our value creation, [see report](#).

Through our business activities, we transform the different types of capital we use to operate into capital: financial, human, natural, social, intellectual and operating capital.

With the aim of establishing the net value we deliver to society, we measure our positive and negative impacts through a tool called the Value Added Statement (VAS).

This provides us with a comprehensive view on how we retain, add or reduce value, and it provides us with useful information that enables us to:

### MAKE DECISIONS

that are more responsible and better informed

### MANAGE RISKS

more accurately

### ENHANCE TRANSPARENCY

for our stakeholders

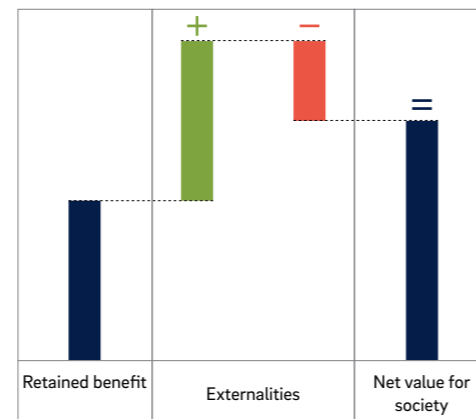
## Model

Our VAS model estimates the net value during the fiscal year. The results are expressed in monetary terms in a bridge graph.

It starts with a blue bar, which represents the benefit we retained in the period.

The subsequent bars represent the economic, social and environmental externalities that are translated into benefits or costs for society.

These are expressed in U.S. dollars and are added up to obtain the net value, which is reflected in the blue bar at the end.



■ **Employees of Grupo Empresarial Argos**  
Medellín, Colombia

All our strategic businesses are using the VAS method to establish their net contribution to society. In 2020, we will actively work to establish the value we add to society as a consolidated business group.

## Economic Externalities

■ **Salaries and benefits:** Dynamization of the economy through the employee payroll.

■ **Interests and dividends:** Dynamization of the economy through the payment of interest to banks and investors, and the payment of dividends to our shareholders.

■ **Taxes:** Dynamization of the economy through the payment of taxes to the government.

## Social Externalities

■ **Talent development:** Benefits for employees who receive higher salaries in the job market after having been trained.

■ **Investments in communities:** Benefits for the community thanks to housing, community infrastructure and education projects, scholarships, etc.

■ **Health and safety:** Costs for employees and their families from occupational injuries, fatalities and diseases.

## Environmental Externalities

■ **Greenhouse gas (GHG) emissions:** Impact on the environment and people from GHG emissions (Scope 1 and 2 CO<sub>2</sub>e emissions).

■ **Air emissions:** Impact on people from atmospheric pollution related to NO<sub>x</sub>, SO<sub>x</sub> and particulate matter emissions.

■ **Water consumption:** Impact on communities due to water scarcity caused by consumption.

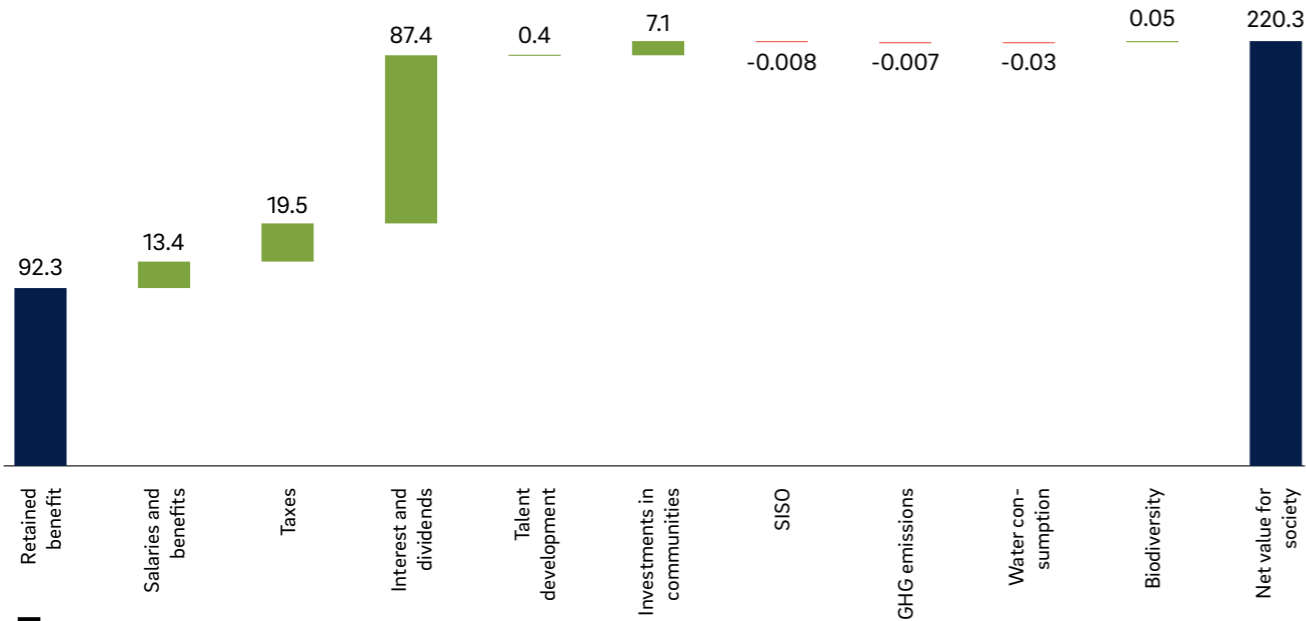
■ **Biodiversity:** Positive or negative impacts on biodiversity from mining operations and facilities, as well as offsetting and rehabilitation programs.

■ **Avoided GHG emissions:** Avoided impacts on the environment and people due to initiatives such as the use of clean energy and the replacement of raw materials and fossil fuels.

To see the details, methodology and sources used in the VAS, please visit [here](#).

Results

# Grupo Argos 2019 Separate Value Added Statement (VAS)



**Scope**

- Figures of the Separate Financial Statements
- Includes the Urban Development Business
- Impacts of our own operation.

2.4

times the retained benefit



We increased the value we add to society

33%

with respect to the previous year, when we added 1.8 times the value we retained

For the conversion of these figures, we used the average representative market exchange rate (TRM, for the Spanish original) of 2019, which was COP 3,283.21.

In 2019, we added to society 2.4 times the value we retained in the same period, which represents an estimated net value to society of USD 220 million.

In the economic aspect, we helped dynamize the economy through the payment of salaries, benefits, taxes, interest and dividends, generating an estimated benefit of USD 120.3 million. This represents 55% of the net added value and a significant contribution to the country's productivity and competitiveness.

Meanwhile, our training programs achieved an average of 45 hours per employee and an estimated benefit for them of USD 400,000. We contributed to community infrastructure through urban development works built by our urban development business, which added to citizen culture programs and sport units is equivalent to an estimated benefit for the community of USD 7.1 million. These two positive externalities added to the social costs of industrial safety and occupational health incidents are equivalent to an estimated net value of USD 7.5 million for the social dimension.

In the environmental dimension, the main impacts are due to water consumption and greenhouse gas emissions, which together

comprise an estimated social cost of USD 41,000. The result was positive in biodiversity. There was an estimated benefit of USD 48,000, mainly due to the reforestation initiatives of our urban development business and less removal of soil. The above represents an estimated positive net value of USD 7,228.

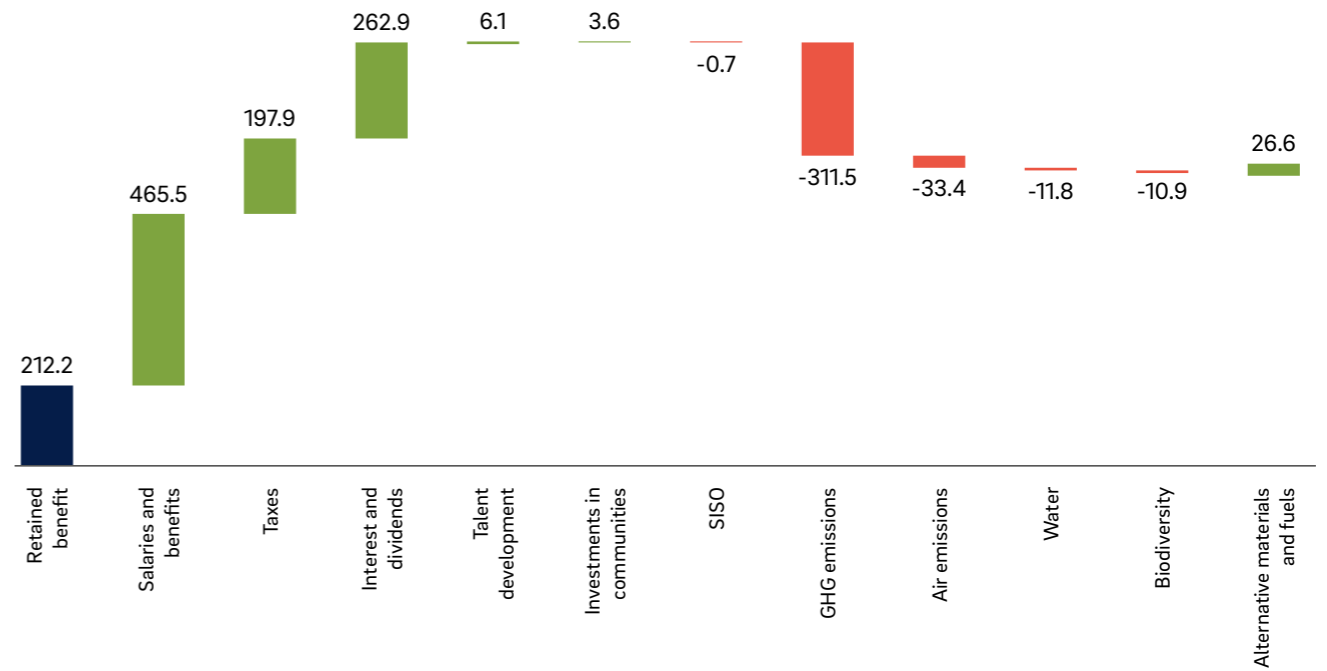
Although the environmental result is positive, we constantly work to contribute to the conservation of ecosystems through our businesses and our Fundación Grupo Argos. To date, we have planted more than six million trees over the last four years.

### Conscious Investment Model

We actively work to develop specific applications aimed at achieving the three goals of our VAS model. In 2019, we integrated the VAS method into our investment processes with the aim to make our decision-making more conscious, objective and informed. This new tool integrates financial criteria with the ESG criteria, which enables a comparison of the added value in financial terms with the value added to society.

Results

# Cementos Argos 2019 Value Added Statement (VAS)



**Scope**

- Figures of the Consolidated Financial Statements
- Includes the cement, concrete and aggregates business.
- Impacts of own operation

For Cementos Argos, the dynamization of the economy in 2019 represented an estimated benefit of USD 926.4 million. Furthermore, estimated net benefits of USD 9.7 million were generated by its social externalities.

Greenhouse gas emissions comprised 85% of the total costs generated for society in the period, estimated at USD 311 million. This is an example that the challenge in climate change for the cement industry is immense. For this reason, as part of its environmental strategy, Cementos Argos has developed a series of initiatives that help to reduce this impact. The monetized example of these efforts is the positive impact generated by the replacement of raw materials and fossil fuels with other alternatives, which is estimated to be USD 26.6 million. For more information about its management in climate change, visit its integrated report on the website: [www.argos.co](http://www.argos.co).

In turn, water consumption, atmospheric emissions and impacts on biodiversity represented 3%, 9% and 3% of the total social costs, respectively. The externalities of the environmental dimension represented an estimated total net cost of USD 341 million in 2019.

### Applications

Cementos Argos was one of the pioneering companies in monetizing its externalities. Parallel to this, it has focused on developing applications related to quantification of its water risk, as well as the calculations of added value for its operations in different countries. Based on this exercise, analyses have been conducted that provide essential information for its customers' decision-making.

Currently, Cementos Argos is developing these applications with the aim to keep integrating the VAS method into its decision-making.

**CONSCIOUS INVESTMENT**

We invest in businesses that contribute to solving global challenges and ensure value generation in the long term, both for the company and for society



Guanacaste Wind Farm  
Bagaces, Costa Rica

**Goals**

● Permanent ● Underway ○ Not Started

**Short term**

● Apply the VAS methodology to each of our businesses, some of them are currently making significant progress and others are building a model that fits their type of business.

**Medium term**

● Carry out a consolidated VAS model of Grupo Argos as a Business Group, being aware of the different nature of each of our businesses.

**Long term**

● Actively collaborate with companies within different sectors, in order to build a standardized impact measurement methodology.

# Applications

## Conscious Investment Model

Our sustainability strategy is made up of three pillars: conscious investment, cutting-edge practices and responsible operation. Through the VAS model we empower each of them in order to make our decision-making more conscious, objective and informed.

During 2019, we developed a tool that allows us to guarantee our first pillar of conscious investment. As an investment holding, we perform a key role in the positive transformation of society.

Our investment or disinvestment decisions have the potential to have a positive or negative impact on our economy, our planet and the persons living on it.

Therefore, we developed a methodology which is now part of the due diligence processes for merger and acquisition that allows comparing the financial criteria against the monetization of ESG impacts, by using the VAS methodology (Value Added Statement).

We firmly believe that we must make informed and objective decisions in order to ensure long term value creation while we contribute to the solution of the current global challenges. This also leads us to avoid mistakes or omissions that may affect our portfolio performance.

### Participation in the Impact Valuation Round Table (IVR)

We continue participating in the IVR, a space provided by the global leading companies in impact valuation, created to exchange experiences, tools and multipliers for the measurement of externalities. The IVR meets twice per year to learn of progress made, trends and even controversies arising around the impact valuation; by always looking to refine the models, improving the outcomes and permanently getting closer to the comparability of methodologies.

# Externalities and Assumptions

<b>EBITDA</b>	USD 187,330,063
<b>INCOME TAX</b>	USD 5,189,624
<b>FINANCIAL COSTS</b>	USD 31,849
<b>DIVIDENDS</b>	USD 89,752,549
<b>RETAINED BENEFIT</b>	USD 92,359,040
<b>EXCHANGE RATE</b>	\$3,283.21

The scope of the model is the own operation; therefore, we do not include any positive or negative impact of our providers, such as payments, training hours, CO2 emissions, accident rates, etc.

## Retained Benefit

We calculate it by subtracting the income tax, interests and dividends paid by the company from the EBITDA. This information is available in our Separate financial statements contained in the Integrated Report as of December 2019.

## Economic Externalities

### Salaries and Benefits, Taxes, Interests and Dividends

**Input:** payments effectively made during the year to our stakeholders: employees, authorities, investors and shareholders

**Multiplier:** the indirect effect that we define as the increase in demand and consumption in a local economy for a liquidity injection. This effect consists on:

- **GVA (Gross Value Added):** es el porcentaje de los gastos iniciales que se inyecta en diferentes sectores de la economía a través del aumento del consumo y el gasto de los grupos de interés. Los VAB se toman de las matrices insumo-producto de la OCDE.

- **Backward linkages:** it means the capacity that a sector has to directly promote others related to it by the demand of intermediate consumption goods. We take the OECD input-output

tables, based on the input-product table analysis developed by W.W. Leontief, as interpretation instrument for the interdependencies of the different economic sectors.

**Assumptions:** initially, we calculate all the monetization of the economic externalities by assuming fully efficient local economies regarding the allocation of resources and the economic impact. Subsequently, we apply a correction for the economic inefficiencies, to take into account external activities related to the corruption in the countries where we operate and in which we do not participate.

We calculate this correction by using the Corruption Perceptions Index (CPI) - Transparency International for each country, which reflect how the external conditions may affect our social value creation.

## Social Externalities

### Occupational Health and Safety (OSH)

**Input:** work-related diseases and accidents (severe, moderate and fatalities) of employees and contractors.

**Multiplier:** the social cost of injuries or fatalities according to the Safe Work Australia study (2015), which estimates the average costs for the employee and the community in rehabilitation and health care expenses, administrative expenses and current and future income loss.

**Assumptions:** given that the monetization factors are expressed in Australian dollars (AUD) for 2013, we adjusted the currency and GDP, so that they reflected the total costs for each of our regions.

We do not consider the costs of occupational accidents or diseases for the company, as we assumed that they are reflected on our financial statements.

### Talent Development

**Input:** the number of employees that leave the company for a new job.

**Multiplier:** the rate of social return of education for a certain training level (Montenegro and Patrinos, 2014).

**Assumptions:** we performed the monetization taking the annual turnover rate and the average training hours of our employees. The effects of talent development become an externality once the employees leave the company and earn greater income in the labor market from a higher rating. This approach allows us to monetize these effects as the impact on the local economy generated by the additional salary earned by the employee when he gets a new job.

The training of employees who remain in the company translates into greater productivity and efficiency; therefore, their effects are already internalized in our financial statements.

### Community investments

**Input:** the value of the investment in the following lines: low-cost household, community infrastructure, educational infrastructure and scholarships.

**Multiplier:** the Social Return on Investment (SROI). We detail the SROI multiplier used for each investment line below.

- **Low-income housing:** for Colombia, the Caribbean and Central America, we selected the average of four multipliers of different studies, while for the United States we used calculations by Mitchell and McKenzie (2009).

- **Community and Educational Infrastructure:** for Colombia, we chose Clavijo et. al. (2014) as a reference, while for the Caribbean and Central America we took the average multipliers of Brazil, Mexico and Argentina published by Standard & Poor's (2015). The calculations for the United States are based on Cohen et. al. (2012).

- **Scholarships:** we used the private internal rate of return for investment in education of the OECD (2017). For Colombia, the Caribbean and Central America, Chile's multiplier was used.

**Assumptions:** we used the SROI to calculate the benefits for the community of a specific project in a certain locality, on the basis of each monetary unit invested in the project. We applied a specific SROI for each region or country where we operate, selected the closest methodological reference or made approximations intended to be adjusted to the local reality.

For the energy supplied in Haiti by our subsidiary Cementos Argos, we assumed that the savings in electricity bills by the beneficiaries result in an increase in the household expenses in multiple sectors of the country's economy. Therefore, we took the energy price in Haiti from the Industry Intelligence Database of Bloomberg New Energy Finance and calculated the economy dynamization of said expense by using the same multiplier of our economic externalities.



Cementos Argos Plant  
Cartagena, Colombia

## Environmental Externalities

### Greenhouse Gas (GHG) Emissions

**Input:** scope 1 and 2 tons of CO2 emissions.

**Multiplier:** the social cost of carbon (SCC), which reflects the damage to society generated by GHG emissions over their lifetime in the atmosphere. We use the US Environmental Protection Agency's estimate (EPA, 2016).

**Assumptions:** the EPA's SCC amounts to USD \$32.32 after adjustment for inflation and the 4% discount rate applied according to the options provided by the study. However, estimates vary depending on the discount rate applied, which determines the present value of future damages.

This cost includes changes in net agricultural productivity, human health, property damage from increased flood risk and the value of ecosystem services due to climate change.

### Atmospheric Emissions\*

**Input:** mercury emissions, sulfur oxide (SOx), nitrogen oxide (NOx) and particulate matter (PM).

**Multiplier:** TruCost (2013) social cost of air emissions

**Assumptions:** this cost includes the impact on human health (approximately 90% of the total cost), forestry and agricultural yields, material corrosion and water acidification.

Due to data availability, we calculate the negative impact of particulate matter (PM) emissions on the basis of PM10 cost (relative to particle size), while the impact of sulfur oxide SOx emissions is based on SO2. The scope also includes nitrogen oxide (NOx) emissions. The impact of air emissions depends on the population density of the areas where we operate. As an assumption, we use the average cost of air pollutants from the study

\* This externality only applies to the cement business.

# Model Updates in 2019

We update and refine our model as a constant exercise, which aims to have the most recent approaches and studies for our impact assessment.

Every year we carry out a comparative analysis in order to identify opportunities for improvement in any of the following aspects::

- Definitions and measurement tools for input data,
- Monetization methodologies,
- Multipliers.

Although we have not had any changes in the calculation methodology, the following table shows the changes in the input data or multipliers we adopted during 2019 for each externality.

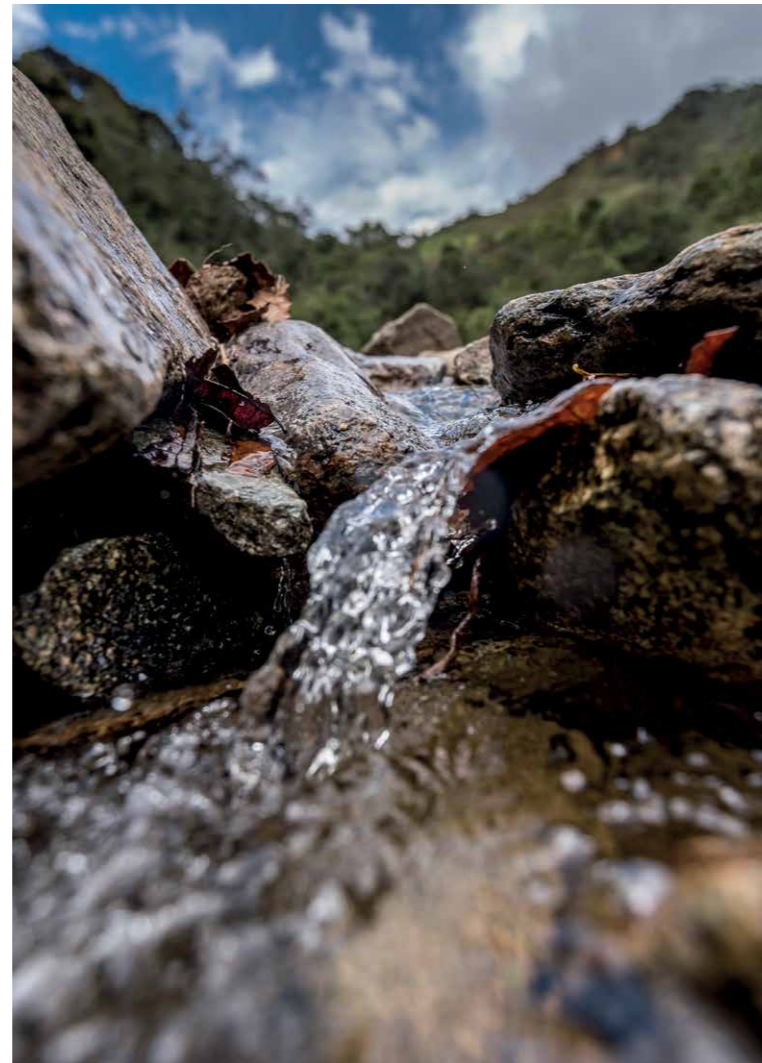
EXTERNALITY	CHANGES IN THE INPUTS	CHANGES IN THE MULTIPLIER
Salaries and benefits		✓
Taxes		✓
Interests and dividends		✓
Talent development		✓
SISO		
CI - infrastructure		
CI - housing		
CI - education		
CI - scholarships		
CI - electricity		✓
GHG Emissions		
Other Emissions	✓	
Water consumption		✓
Biodiversity		
Alternative materials and fuels		

The OECD input-output tables were updated in 2019; data as of 2011 was updated to 2015. This table is the main input for calculating the multipliers of the economic dimension, as well as talent development externality. For comparability purposes, the previous years' periods were also updated with these multipliers.

The price of electricity for Haiti was updated with the 2019 figures published by Bloomberg New Energy Finance in the Climatoscope Latin America. This source is the main input for Community Investment - Electricity.-

In August 2019, the World Resources Institute launched an updated version of the Aqueduct Water Risk Atlas (Aqueduct 3.0), a tool we use to classify the water risk of the areas that provide water for the operations. This update implied a readjustment or removal of indicators, improvements in the hydrological model used (includes groundwater) and refinement of scales in the sub-basins used. The above generated changes in the hydric stress classification of some areas where we have presence.

In 2019, mercury emissions data were included in the model of Cementos Argos as part of the externality "Other Emissions". This inclusion responds to our commitment to transparency and accountability to our stakeholders. We are currently collecting mercury emissions data for about 87% of Cementos Argos' operations, and the goal is to reach 100% by 2020.



Belmira Basin, intervened by Fundación Grupo Argos through the Cuenca Verde program. Antioquia, Colombia

## Water consumption

**Input:** water consumption in all operations, comprising direct non-consumptive use and indirect use (e.g., value for recreation, biodiversity, groundwater recharge, waste assimilation).

**Multiplier:** the social cost generated by water consumption in a specific territory according to the Natural Capital at Risk study conducted by TruCost (2013).

**Assumption:** this approach assumes that the social cost of water use varies depending on the level of water scarcity in a given territory. Therefore, we classify the water sources for our operations according to the level of water stress, which is defined with the help of the WRI Aqueduct Tool, as the relationship between the total water collected by industry, agriculture and the domestic sector and the total water available in a given basin. The higher the level of water stress, the higher the social cost of water.

## Biodiversity

**Input:** the total number of hectares affected and rehabilitated, classified according to the type of ecosystem.

**Multiplier:** estimated annual benefits of restoration projects in different ecosystems worldwide (TEEB, 2009).

**Assumptions:** we exclude concrete plant areas, as these were established on previously constructed areas, and therefore assume no additional impact on biodiversity.

## Alternative Materials and Fuels\*

**Input:** the tons of CO2 emissions avoided by using alternative materials and fuels instead of traditional materials and fuels in production processes.

**Multiplier:** the social cost of carbon SCC, the same multiplier of greenhouse gas emissions.

**Assumptions:** since the alternative materials and fuels used are waste or by-products, we do not include the negative impact of manufacturing them.

\*This externality only applies to the cement business.

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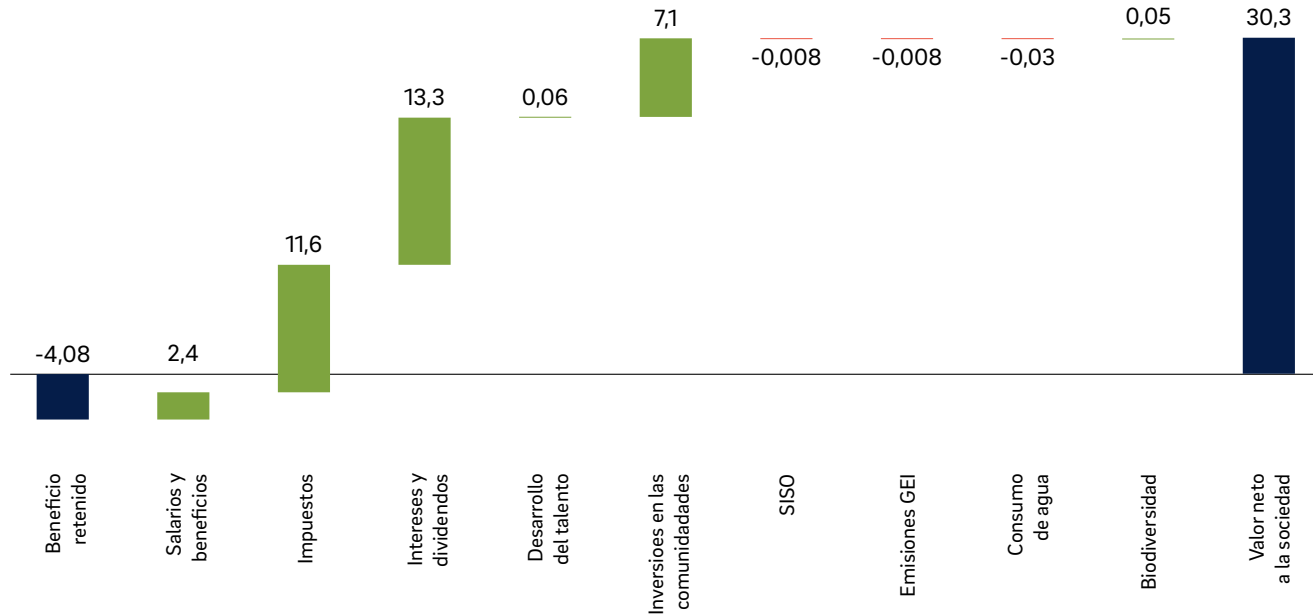


**GRUPO ARGOS**  
[www.grupoargos.com](http://www.grupoargos.com)

## Resultados

# Negocio del Desarrollo Urbano

Cifras en millones de dólares



# Resultados Celsia

Cifras en millones de dólares

