

ENVIRONMENTAL MANAGEMENT

As the world leader in customized casings, we have a responsibility to combine economic growth with environmental and social needs for a sustainable future. This objective ranges from the optimization and purification of water used in the production process, better use and reuse of raw materials, to the efficient use of energy.



MATERIAL ASPECTS

- Environmental management systems and sustainable management certificates
- Circular economy: Efficient use of raw materials and minimisation of waste
- Responsible management of water
- Energy efficiency
- Greenhouse gas emissions

Our commitment to Sustainable Development Goals



- Sustainable management of water in the company's operations and factories, with a strict policy of water consumption and reuse, improving the quality of wastewater discharges and investing in the best available technologies for water management.



- Integrate criteria of circular economy in the organization through policies of prevention, reduction, reuse, recycling and valuation of waste.



- Invest in more sustainable and less carbon-intensive technologies and introduce circular economy criteria in the company's activities.



Management approach

Policy

The Corporate Environmental, Health and Safety (EHS) Policy, which defines the values of the organization and sets priorities in environmental matters, was approved by the Board of Directors in 2015, and applies to all personnel working for or on behalf of the organization.

To ensure the application of the principles contained in the policy, 15 EHS Management guidelines have been developed by the Viscofan Group, setting the common implementation bases for safety, occupational health and environment management systems.

Viscofan participates in the United Nations Global Compact from 2015 and shares the commitments of the Sustainable Development Goals (SDGs) concerning the environment (climate change, conservation of marine resources, protection of ecosystems, sustainable water management).

In addition, the Group has a Sustainability Action Plan for the period 2019-2020 approved by the Board of Directors, which seeks to promote the development of a culture of best practices in social responsibility, also within the area of environment, with commitments in the reduction of waste and CO₂ per meter produced.

Likewise, since January 2020 the Group has a Sustainability Committee whose task is to periodically monitor the progress of the Sustainability Action Plan and to drive its implementation throughout the organisation.

Resources allocated

The growing commitment to sustainability is also revealed in its human and financial dimensions.

Management of environmental matters at Group level is the responsibility of the Corporate Environment, Health and Safety (EHS) Department, which reports to the Operations Department and is responsible for coordinating and supervising EHS matters at all the Group's production plants.

Being more sustainable and reducing our impact on the environment is a commitment for all of us. In addition to allocating financial resources, measures are also promoted to further the Group's values and commitments with regard to environmental management among employees, with training courses standing as an essential element of the management approach.

Environment projects accounted for an investment of €6.5 million in 2019, 10% of the Group's total investments. The following are noteworthy because of the impact they have on total investment: expansion of the wastewater treatment plant in Cáseda and Uruguay; and more efficient evaporation systems.

There is more information about the economic resources allocated to the protection of the environment in note 26 of the consolidated annual accounts.



Environment projects accounted for an investment of €6.5 million in 2019.

Environmental management systems and sustainable management certificates

The importance given to EHS is reflected in the advances in environmental management systems and the attainment of sustainable management certificates. We are working to attain the ISO 14001 certification in all the production plants in the “2016-2020 MORE TO BE” period.

Currently, more than 60% of the plants have this certificate (excluding the acquisitions made in the strategic period, 86% of the Group’s plants have this certificate).

In 2019 the Kentland plant (Vector USA) has certified its environmental management systems to this standard and the objective for 2020 will be to continue with the certification process at the Danville and Montgomery plants in the United States and the Alfhausen plant in Germany, meeting the objective of 100% of the plants in the Viscofan perimeter at the beginning of the strategic plan.

The breakdown of the Group’s plants with ISO 14001 certificate is the following:



Currently, more than 60% of the plants have the ISO 14001 certification

Certifications of the Viscofan Group

Country	Plant	ISO 14,001
Spain	Cáseda	✓
	Urdiain	✓
Germany	Weinhem	✓
Serbia	Novi Sad	✓
Czech Republic	Ceske Budejovice	✓
Belgium	Hasselt	✓
USA	Kentland	✓
Mexico	Zacapu	✓
	San Luis Potosi	✓
Brazil	Itu	✓
	Matarazzo	✓
Uruguay	Pando	✓
China	Suzhou (2 plantas)	✓
Australia	Sydney	✓
New Zealand	Wellington	✓

At the same time, the energy management model of the Weinheim (Germany) and Cáseda (Spain) plants is certified by the ISO 50001 energy efficiency standard.

Circular economy: Efficient use of raw materials and minimisation of waste

Developing more sustainable activity requires incorporating environmental criteria throughout the value chain that minimises the impact of our business activity caused by the transformation of raw materials by mechanical and chemical means that leads to the generation of waste.

Starting with the selection of raw materials, both the main ones (cellulose, collagen skins, abaca paper, polyamides and natural gas) and the auxiliary ones, and continuing with reduction of waste generation, optimising waste management and prioritising recovery or recycling above other systems such as destruction or disposal.

In the selection of raw materials we seek to reduce their environmental impact as much as possible.

To avoid deforestation and its impact on climate change, all our suppliers of cellulose and abaca paper have certificates (PFEC or FSC) that ensure the sustainable management of trees and forests. In addition, our cellulose and fibrous casings are compostable, and economically viable alternatives are being sought to take advantage of their properties, both in obtaining glucose and their use as biogas.

More than 80% of our volume of casings is of natural origin (vegetable or animal), although within our portfolio there are also plastic casings of synthetic origin which represent an important technological challenge in the search for sustainable solutions. In this line, we are working according to the 4R model (reduce, reuse, recycle, and repair) in plastics technology with different initiatives where the following achievements have been made:



- In the Czech Republic, we have reduced the thickness of approximately 70% of our plastic multilayer production between 2% and 9% in 2019.



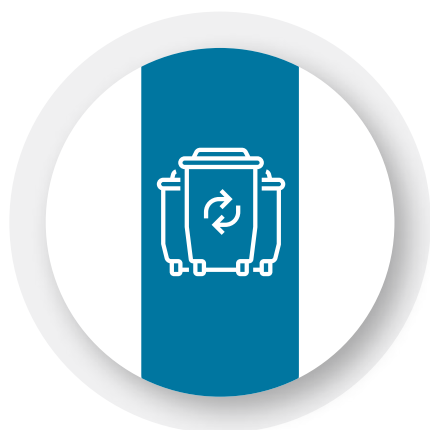
- In Brazil, we have reduced the thickness of some multilayer plastic casings products by 23%, thus lowering the need for raw materials.



- We have developed a plastic casing of natural origin and we are working to incorporate a higher percentage of natural origin plastics in our casings.



- We have signed agreements with our raw material suppliers to develop new recycling solutions for our plastic casings with the aim of changing the production model in the future from an extractive economy in plastic to a circular economy in plastic.



Waste Management

For the management of the waste generated in our production process, we use disposal methods that have been determined locally based on local regulations and good practices within the Group, taking into consideration the characteristics of the production process and the raw materials used.

In 2019, the tons of waste decreased by 8.1% compared to 2018. The production efficiencies achieved at Group level

make it possible to compensate for the increased waste from the plant with new production technology in Cáteda, Spain, where new production modules were installed in 2019.

It should be noted that this new plant incorporates the latest technological developments in sustainability. These improvements not only translate into a reduction in residues owing to the lower amount of waste in the production process, but also into a reduction in CO₂ per metre produced, and a reduction in discharges and gas emissions.

Tons of waste

	2019	2018	2017
TOTAL waste in tonnes (tn.)	49,307	53,423	46,498
Waste in tn./ Metres produced. Base 100 2016	110	119	104

Breakdown of waste and by-product

	2019			2018			2017		
	Non-hazardous	Hazardous	TOTAL	Non-hazardous	Hazardous	TOTAL	Non-hazardous	Hazardous	TOTAL
Reused	5.9%	0.0%	5.9%	0.1%	6.3%	6.4%	0.1%	16.0%	16.1%
Recycled	7.8%	2.5%	10.3%	7.6%	5.6%	13.2%	11.7%	0.1%	11.7%
Composted	27.8%	0.0%	27.8%	26.3%	0.0%	26.3%	27.0%	0.1%	27.1%
Recovered	1.8%	0.2%	2.0%	2.2%	0.2%	2.3%	0.5%	0.2%	0.6%
Incinerated	7.7%	0.2%	7.9%	7.0%	0.5%	7.5%	7.2%	0.2%	7.4%
Landfill	36.6%	1.3%	37.9%	37.6%	1.2%	38.8%	33.2%	2.1%	35.3%
Other	1.6%	6.5%	8.2%	1.2%	4.3%	5.5%	0.1%	1.6%	1.7%
TOTAL	89.2%	10.8%	100.0%	81.9%	18.1%	100.0%	79.7%	20.3%	100.0%

* Does not include Transform Pack or Globus

Responsible management.
Prevention of spills

The Viscofan Group has implemented an environmental management system with a view to preventing spills and leaks, in which it has established management mechanisms and technical control elements. Should they occur, this system has detection, reporting and anomaly correction methods, including ones for predictive purposes.

There were no spills or leaks at Viscofan Group facilities in 2019 that had to be reported to the competent authorities, understood as those that cause damage to the external environment of the facility and must be reported to the corresponding administration.



SDG
Commitment



In order to contribute to the SDG 12. Responsible production and consumption, the Viscofan Group's Sustainability Action Plan aims to reduce the ratio of tonnes of waste managed in landfill to the millions of metres of extruded casings, which has been linked to the long term incentive plan for executive directors, managers and key personnel.

Based on the figure of 1.27, the proposal is to apply 30% to the weighting ratio if a minimum reduction of the indicator by 4 percentage points is achieved and increase the weighting ratio up to 100% if the indicator is reduced to 10 percentage points in the Measurement Period.



Responsible management of water



As we are working in an environment where there is a growing demand for industrial water, responsible water management is one of the cornerstones sustaining our environmental policy. Viscofan's production process requires the use of water, mainly in phases of the process that involve washing the casings. In general terms, water is obtained from different sources - surface or underground water, municipal supply - depending on the location of the production plant: Once the water has been used, the production plants have water treatment plants to treat it before being poured into freshwater or municipal treatment plants.

When managing the impacts related to water use, the Viscofan Group has identified key management indicators with a double purpose: optimise water consumption at the company subsidiaries whenever possible and improve the water purification process with a view to reducing the pollution load thereof.

Consumption and Capture

A baseline of 100 was set for the 2016 water usage intensity ratio ($\text{m}^3/\text{millions of metres produced}$) to track the intensity of our water consumption in the following years.

In 2018, the intensity ratio increased due mainly to the start-up of plant 4 in Cáseda, Spain, which has continued in 2019 with new production modules under the new production technology and the increased production capacity in Koteks, Serbia. In order to increase the optimisation of water, in 2018 a project was carried out for greater water reuse in China, bringing the total water used to $26,635 \text{ m}^3$, although the results were not as expected and it was decided to seek out other optimisation options, bringing the cubic metres reused in 2019 to 1,069.

The number of cubic metres of water reused will also be reduced in 2019 compared to 2018 due to the decision to improve the quality of the discharge at the Suzhou (China) plant.

There was no record in 2019 of the organisation's water capture significantly affecting any water sources. All captures are strictly regulated by the public sector, which assign permits and determine the maximum permitted capture volumes to preclude significant effects.

However, according to the World Resources Institute list, plants in Mexico, Brazil and China are located in areas of high or extremely high water stress, a risk that the Group has identified.

The evolution of the ratio of intensity of water consumption and reuse is as follows:

Water consumption

	2019	2018	2017
Water consumption in m ³ /Metres produced Base 100. Year 2015	107	106	97
	2019	2018	2017
Water reused in m ³	1,069	26,635	9,510

* Does not include Transform Pack or Globus

Water consumption by source in m³

	2019	2018	2017
Surface water	3,849,469	3,755,026	3,301,733
Ground water	2,643,301	2,636,088	2,443,000
Local water supply	2,947,574	3,021,961	2,809,491
Rainwater	0	0	0
Waste water	0	0	0
TOTAL	9,440,345	9,413,076	8,554,224

* Does not include Transform Pack or Globus

Water consumption by source in %

	2019	2018	2017
Surface water	41%	40%	39%
Ground water	28%	28%	28%
Local water supply	31%	32%	33%
Rainwater	0%	0%	0%
Waste water	0%	0%	0%
TOTAL	100%	100%	100%

* Does not include Transform Pack or Globus

Discharge

Additionally, Viscofan is aware that proper water management also includes correctly purifying its wastewater and minimising the impact of its activities on the environment. Hence, it promotes investment in water treatment plants in its manufacturing facilities, where treatment of water makes it possible to improve the quality of discharges. Factories that treat 100% of the water are: Cáseda (Spain), Zacapu (Mexico), Koteks (Serbia), Itu (Brazil), Pando (Uruguay) and Suzhou (China).

To improve waste management, several projects are being carried out in different Group plants. In Cáseda (Spain) the project to expand the wastewater treatment plant has been completed with an investment of 1.6 million euros, and in Koteks (Serbia) the expansion of this facility is underway. With these investments, the Group is improving the quality of the waste and gaining in reliability and assurance in the management of the same:

Wastewater broken down by destination is as follows:

Water discharge, m³

	2019	2018	2017
Surface freshwater	4,354,863	4,279,567	3,930,315
Local treatment plant	3,405,950	3,387,789	3,300,921
TOTAL	7,760,813	7,667,357	7,231,236

Water discharge by source in %

	2019	2018	2017
Surface freshwater	56%	56%	54%
Local treatment plant	44%	44%	46%
TOTAL	100%	100%	100%

* Does not include Transform Pack or Globus

Energy efficiency and greenhouse gas emissions

Energy model

The production process of casings is a continuous process throughout the year that requires substantial energy, especially in the drying processes of casings. As far as possible we incorporate high efficiency technology and cogeneration to obtain this energy.

In our fight against climate change, we are continuously investing in improvements to reduce energy consumption and to make the most of the different ways in which this energy is present in our processes. Viscofan's strategy for reducing overall CO₂ emissions includes using heat, even in the effluents from our production processes, and replacing systems requiring elevated amounts of energy with more efficient systems.

Specifically, the Viscofan Group has cogeneration plants that allow greater efficiency from an environmental point of view with savings in CO₂ emissions, cost savings, and ensuring the continuity of the energy supply. These facilities

are located in Cáseda (Spain), with an installed capacity of 48MW; in Zacapu (Mexico), with 0.6MW; and in Weinheim (Germany), with 8.7MW.

Energy consumption

The Viscofan Group has established the energy intensity indicator for analysing the efficiency of harnessing the different forms of energy throughout the organisation. The calculation was made on baseline of 100 for 2016, dividing consumed energy in absolute terms by metres of production.

In 2019, the intensity ratio increases mainly due to the start of new modules with new technology for the production of casings at the Cáseda (Spain) facilities.

The internal energy consumption expressed in Giga Wh and the energy intensity, with a 100 baseline year of 2016, is the following:



Energy consumption within the organization

	2019	2018	2017
Internal consumption in KWh /Metres produced	2,294	2,276	2,158

Energy intensity. Base 100 year 2016	2019	2018	2017
Internal consumption in KWh /Metres produced	100	98	94

* Does not include Transform Pack or Globus

Emissions

The breakdown of direct and indirect CO₂ emissions and their intensity is as follows:

CO₂ Emissions Tn

	2019	2018	2017
Direct	386,221	378,128	375,561
Indirect	154,580	164,138	154,144
TOTAL	540,801	542,266	529,705

Base 100 year 2015	2019	2018	2017
CO ₂ Emissions intensity /Metres produced	98	97	95

* Does not include Transform Pack or Globus



Thanks to co-generation installed in Spain, Germany and Mexico, it is worth noting that over the last 10 years the Viscofan Group has managed to avoid the emission of nearly one million tonnes of CO₂ into the atmosphere.

Moreover, with the intention of improving management and analysing polluting gases, information started to be collected in 2018 from the EHS corporate department regarding other

emissions, at a consolidated level. This is the case of nitrogen oxide (NOX) emissions; the number for 2018 and 2019 is as follows:

Other emissions Tn

	2019	2018	2017
NOX	657	643	n,d,



Initiatives aimed at reducing emissions:

Below is the figure of equivalent tons of CO₂ avoided by using cogeneration compared to that theoretically emitted to obtain the steam obtained in cogeneration using conventional boilers in the plants at Cáseda (Spain), Zacapu (Mexico) and Weinheim (Germany):

In particular, the use of cogeneration as energy and heat generation sources entails a reduction in emissions compared with other conventional steam generation systems. The avoided CO₂ emissions in Cáseda, for instance, were 29%.

CO₂ avoided by energy optimization Tn

	2019	2018	2017
CO ₂ avoided by energy optimization	90,531	91,715	96,938



SDG
Commitment



In 2019, a heat recovery system for the boiler was installed at the Zacapu plant (Mexico), enabling savings to be made in both CO₂ emissions and gas consumption. It is also planned in 2020 to renew Cáseda's cogeneration engines adapted to use biogas or hydrogen as soon as this supply is available.

Since October 2019, the electrical energy of the centres located in Tajonar, Cáseda and Urdiain has been classified as green energy, which means that 100% of this energy is of renewable origin and high efficiency cogeneration. Our commitment is to ensure that by 2020 the electricity for these centres is also green energy.

As a result of all these initiatives, the Viscofan Group is committed to reducing CO₂ emissions per million meters produced. In this sense, a reduction of 3% in CO₂ intensity per million meters produced compared to the previous year is expected within the 2020 objectives.