litoplas

2025

Decarbonization Plan

Roadmap to a Low-Carbon Operation by 2030

Version 0.1 May 2025

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Introduction

For five years, at Litoplas, we have been committed to continuously measuring our carbon footprint, with the goal of identifying and reducing our greenhouse gas (GHG) emissions. As of 2024, we decided to move forward proactively on this path, developing our own Decarbonization Plan aligned with the Science-Based Targets (SBT), which will allow us to contribute significantly to the fight against climate change.

To this end, we conducted an initial assessment, which revealed that a significant percentage of our indirect carbon footprint comes from the use of raw materials, while our direct footprint is primarily concentrated in the energy consumption of our internal generator. However, we are committed to addressing these challenges by implementing innovative and efficient strategies that optimize our processes.

We have made significant investments in more efficient and innovative technologies for the design, production and manufacturing of more sustainable packaging. This was done while addressing energy supply challenges in the region where our main plant operates, the Colombian Caribbean. These actions have been fundamental to our progress toward sustainability and reflect our dedication to making a positive impact on the environment.

Through this plan, we seek not only to reduce our GHG emissions, but also to inspire the industry and our strategic allies to join us in this important effort. We plan an operating model that minimizes our environmental impact while guaranteeing the continuity and efficiency of our production processes and the satisfaction of our customers.

Methodology

The development of an effective decarbonization plan requires a systematic and structured approach, with the help of experts, we developed 5 key steps:

DIAGNOSIS

A comprehensive analysis of the company's GHG emissions was conducted, including Scopes 1, 2, and 3 emissions that were previously calculated under the GHG Protocol.

BASELINE

A baseline was established to measure progress over time. This baseline was defined over a specific period and provides a reference framework for comparing future GHG emission reductions.

LEVERS

Key actions for GHG reduction were identified and defined. For each decarbonization lever, specific projects were established, detailing the actions, resources, and timelines needed to achieve the desired results.

TARGETS

The focus was on establishing GHG emission reduction targets aligned with the Science-Based Targets (SBTs). These targets are specific, measurable, and ambitious, ensuring that efforts are consistent with global expectations for limiting global warming to 1.5°C.

ROADMAP

All the information and strategies were compiled into a comprehensive document that constitutes this plan. In addition, a roadmap was created, including the baseline, selected levers, reduction targets, and projects to be implemented, thus providing a clear path forward.

Science Based Targets Initative

The Science Based Targets Initiative (SBTi) is a corporate climate action organization that enables companies and financial institutions worldwide to play an active role in the fight against the climate crisis. This organization has developed standards, tools and guidelines that help companies that generate GHG emissions to set their reduction targets, aligned with what is required worldwide to keep global warming below catastrophic levels (2°C).

In line with our commitment to sustainability, we considered initiatives such as the SBTi, and whether the best alternative was to subscribe out goals to it. Considering the standards, the growth projections for 2030 and the priorities we have established for the coming years. Below are the main findings and conclusions of this analysis.

Main findings

1. Since there is no specific methodology for the plastics production sector, at Litoplas we should adhere to the general protocols proposed by SBTi. This implies that the company must report absolute and non-intensive emission reductions, different from what happens in other production sectors.

2. SBTi requires inclusion of Scope 3 if it accounts for more than 40% of the total footprint. And gives no accounting for avoided or offset reductions. This creates major challenges to meet goals, as the activities and reductions associated with Scope 3 are not under Litoplas' direct control but instead depend on the value chain.

3. SBTi accounts for our company's GHG emissions on absolute reduction targets, without taking into account growth and emission reductions per ton or square meter produced.

4. SBTi requires revalidation and recalculation of targets if there are significant changes in GHG emissions, operations, acquisitions, structural changes or others. As part of the company's growth plan, we acquired a production plant in Guatemala, which, although included in the target established in this report, will be incorporated into the decarbonization plan in the coming years and would imply a revalidation of the SBTi targets the following year.

SBTi Conclusions

Given the growth projections and the distribution of the carbon footprint across different areas, it is proposed to set intensity targets that are aligned with the guidelines of this initiative, seeking to contribute informally to the objectives of the SBTi and reviewing the initiative again at a later date.

Absolute targets vs. Intensity targets

The targets or absolute indicator correspond to the total tons of CO_2e emitted year by year, without considering the tons of product produced. This indicator does not take into account the reductions obtained per m^2 produced, but rather the reductions on the total GHG emissions generated by the company.

The targets or intensity indicator refers to the CO_2e emissions generated divided by the company's production unit, thus calculating the amount of emissions generated per unit, m^2 or metric ton of final product. This indicator allows taking into account the company's growth projections and the reductions obtained for each production unit.

Carbon Footprint Analysis

Since 2020, we have rigorously measured our carbon footprint, including Scopes 1, 2, and 3, under the GHG Protocol. In addition, during 2023, we verified our footprint in accordance with ISO 14064-3:2019, obtaining GHG inventory certification from ICONTEC.

This has allowed us to analyze the components and activities of our operation that generate the most GHG emissions, and thus develop plans to reduce them.

Scope 1

GHG emissions generated by the company's direct operations, including those generated by the company's own transportation fleet. In Litoplas, this scope includes emissions generated by the consumption of natural gas for plant operations, the burning of fuel for the company's own vehicles, among others. (See details page 7-9).

Scope 2

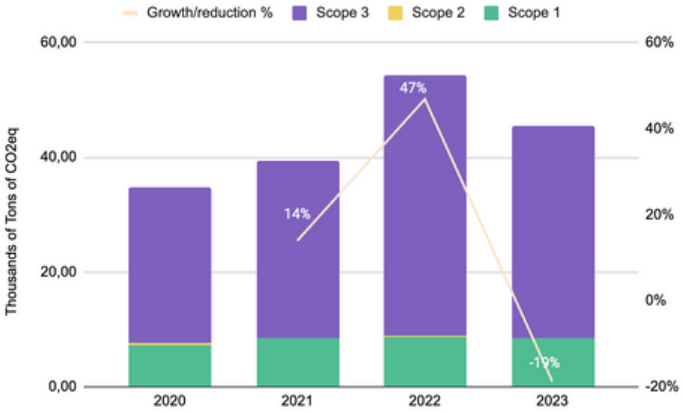
Indirect GHG emissions associated with the purchase and use of electricity, steam, heating, or cooling from external providers. In this case, the Scope 2 footprint covers energy consumption required for the plant's operations, such as lighting and equipment. (See details on pages 7–10.)

Scope 3

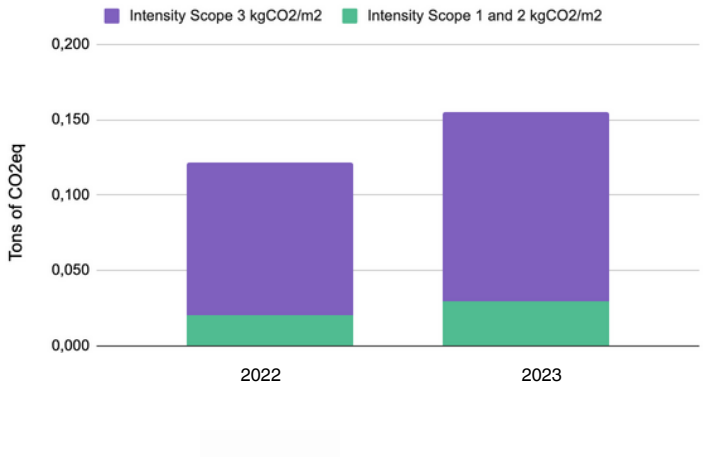
Indirect GHG emissions associated with the company's value chain, i.e. those generated by the consumption of raw materials, suppliers and contracted third parties, among others. This scope includes emissions generated by raw material suppliers, corporate flights, and finished product transportation companies, among others. (See detail page 7-10).

Baseline

To define the year taken as the baseline for the goals, the carbon footprint for each year was analyzed, understanding the variations that occurred in the last 4 years. This information is presented in the graph below:

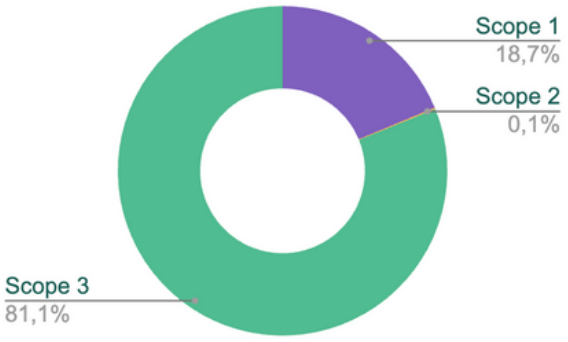


As can be seen in the graph, the year with the highest GHG emissions was 2022, due to an increase in production compared to 2021 and a market contraction in 2023. Analyzing the intensity indicators (GHG emissions per square meter of finished product) for 2022 and 2023 (years with the largest carbon footprint), the following information is obtained:



According to the graph previously shown, the intensity indicator for Litoplas' carbon footprint is higher in 2023 than in 2022. Considering the global context of the years 2020-2022, the projected growth for the coming years, and that 2023 was a year of stable operation, 2023 is taken as the baseline under the intensity indicator (GHG emissions/production).

By 2023, our carbon footrpint for each scope can be detailed in the following chart:



As can be seen in the graph above, 81.1% of the total carbon footprint corresponds to Scope 3, while 18.7% corresponds to Scope 1 and only 0.1% of the total footprint corresponds to Scope 2. This means that efforts to reduce emissions must be concentrated on Scopes 1 and 3, and that the actions prioritized must be oriented towards these fronts.

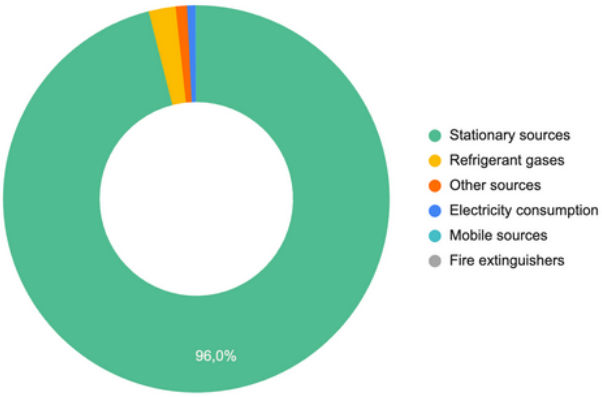
Considering the above, in order to define the decarbonization levers, we will go deeper into each of the areas of the carbon footprint, which are presented below.

A look at the 2023 carbon footprint

Scope 1

Litoplas' Scope 1 footprint has several components, which are presented in the pie chart, along with the largest emission percentages for each of them during 2023.

Additionally, the details in CO_2e metric tons and percentage of GHG emissions for each of the categories are presented below:



Emission sources	tCO_2e	% total carbon footprint
Fixed Sources	8.233,4	18,12%
Refrigerant Gases	193,1	0,43%
Other Consumptions	81,5	0,18%
Electricity Consumption	58,7	0,13%
Mobile Sources	6,9	0,02%
Fire extinguishers	0,14	0,00%

Table 1. Distribution of the Scope 1 GHG emissions for 2023

As can be seen, the main source of Scope 1 emissions is stationary sources, which correspond to the consumption of natural gas and diesel for our company's energy generation. According to this, it is clear that taking action on this front will have a significant impact on reducing our footprint.

On the other hand, refrigerant gases represent 2.27% of the footprint over the same scope. In recent years, we have invested in switching refrigerant gases to those with lower GHG potential. This has allowed us to achieve a 52% reduction compared to 2022.

Scope 2

Scope 2 emissions are generated solely by energy consumption from the national electricity grid. Details are provided below:

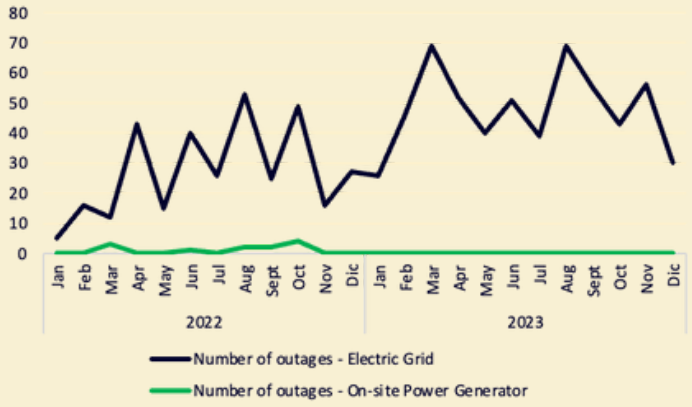
Emission sources	tCO_2e	% total carbon footprint
Power consumption from the grid	58,7	0,13%

Table 2. Distribution of Scope 2 GHG emissions for 2023

As can be seen in the table, electricity consumption from the grid accounts for 0.13% of Litoplas's total carbon footprint. This is primarily due to the fact that the company's energy consumption for operations is obtained from its internal generator. Due to constant power outages and the ongoing impact on production at the main plant, the national electricity grid became a backup option for times when more energy was required than could be produced.

Energy Resilience Strategy in Response to Grid Instability

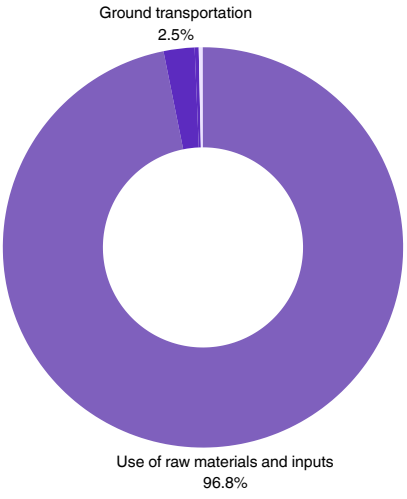
Due to the high instability of the regional power grid in the Caribbean region of Colombia—where 576 outages were recorded in 2023 alone—the company must rely on an on-site natural gas power generator to ensure operational continuity. Frequent blackouts cause significant material losses, increased waste generation, higher raw material consumption to compensate for production gaps, elevated energy use during restarts, and potential damage to sensitive equipment. This energy strategy is essential to protect the company's productivity, reduce environmental inefficiencies, and guarantee product quality.



Scope 3

IThe following is a breakdown of the company's Scope 3 GHG emissions:

As can be seen in the graph, more than 96% of Litoplas' Scope 3 footprint corresponds to the use of raw materials and inputs. The specific percentages and tons of each component are presented below:



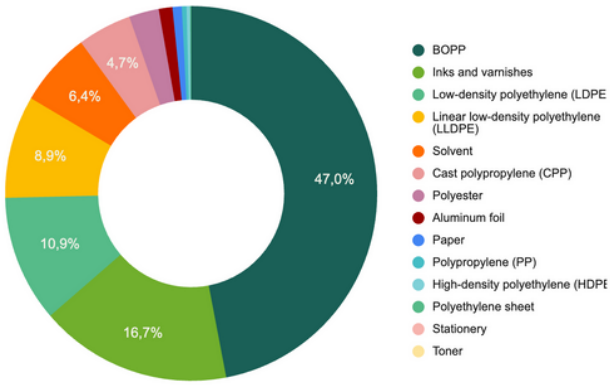
Emission sources	tCO_2e	% total carbon footprint
Use of raw materials and inputs	35.657,5	78,56%
Land transportation of finished product	920,3	2,03%
Corporate Flights	120,2	0,26%
Waste	119,6	0,26%
Water consumption	4,9	0,01%

Table 3. Distribution of Scope 3 GHG emissions for 2023

Raw Materials and Inputs

Due to the importance of raw materials and inputs in the total carbon footprint, the GHG emissions generated by each of them are presented in the pie chart:

As seen in the graph, BOPP consumption generates the largest amount of GHG emissions, accounting for nearly 50% of the total Scope 3 footprint and nearly 40% of our total carbon footprint.



Key Points

- Given the growth projections for 2030, the most appropriate indicator for setting goals and considering reduction actions is the carbon footprint intensity indicator. This is because the former considers GHG emissions generated relative to production, which allows for adaptation to growth.

- The baseline year will be 2023, as it was the year with the highest GHG emissions per m2 produced.

- Scope 1 represents 18.7% of our total carbon footprint and, within this scope, the largest source of GHG emissions is the consumption of natural gas and diesel for the company's power generation due to the low reliability of the electricity grid. Actions aimed at reducing this consumption will have a significant impact on reducing our carbon footprint.
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- Scope 3 represents more than 80% of our total carbon footprint. Although this scope depends on factors external to our operations (such as raw material GHG emissions factors or suppliers' GHG emissions reduction initiatives), it is important to implement projects throughout the value chain and increase the use of technologies that reduce the consumption of raw materials and supplies.

Decarbonization levers

Strategic actions identified for the reduction of GHG emissions

At Litoplas, we base our decarbonization strategy on a comprehensive approach that encompasses all GHG emissions scopes. While all levers and projects are important, we recognize that the reduction of Scope 1 emissions, particularly those associated with natural gas consumption, is fundamental to achieving a significant reduction in our carbon footprint. Therefore, we will prioritize initiatives that reduce our dependence on fossil fuels and increase energy efficiency in plant operations.

In addition, as a leader in the flexible plastic packaging industry, we have a strong ambition to promote the circular economy and plastics recycling.

In this regard, we have decided to focus on 3 key levers related to raw materials: packaging eco-design strategies, strategies with suppliers that implement sustainability activities, and incorporation of PCR or PIR (Post-Consumer Recycled Post-Industrial Recycled) material. These initiatives will not only contribute to the reduction of Scope 3 emissions, but will also strengthen our commitment to sustainability and the fight against climate change.

Below we present the levers (prioritized actions that generate a high impact on carbon footprint reduction) for each of Litoplas' carbon footprint scopes.

Lever Identification

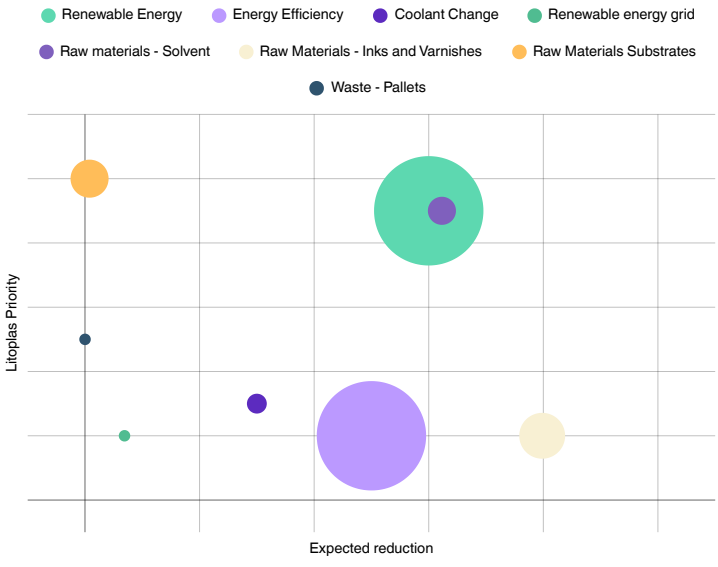
In order to identify our levers or strategic actions, we held meetings between the consulting firm Neuttro and the different areas of the company, we carried out information gathering processes both in the field and in the office, involving the key areas: R&D, Operations, Commercial, Sustainability, Projects, Printing, Supply and Strategy. This joint work allowed us to establish the projects and actions that we are already executing, as well as those that we could implement towards 2030 and that have a direct impact on our emission reductions. From the identification of initiatives in each of the Scopes, we determined those with greater relevance and priority for Litoplas.

	Source	Lever	Project
Scope 1	Stationary Sources – Natural Gas Consumption	Renewable Energy	Solar Energy on the Roofs of the Production Plant
			Solar Energy Project in the Commercial Area
		Energy Efficiency	Energy Efficiency Study and Improvements in Operations
	Refrigerants	Refrigerant Replacement	E2 Cogeneration for Cooling of Production Areas
			Use of R-290 in All Cold Compressor Systems
Scope 2	Grid Electricity	Renewable Energy	Switch from Grid Electricity to Solar Energy Generated on Rooftops
Scope 3	Raw Materials – Solvent	Raw Materials – Solvent	Solvent Reduction by Changing from Conventional Printing to GAMUT Printing
	Raw Materials – Inks and Varnishes	Raw Materials – Inks and Varnishes	Use 100% of Current ExLam Capacity to Reduce Ink and Solvent Consumption
	Raw Materials – Substrates	Raw Materials – Substrates	Incorporation of PCR in Company Multipacks – RLDPE
	Raw Materials – Solvent	Raw Materials – Solvent	Volatile Recovery
	Waste – Pallets	Waste – Pallets	Depalletization
	Eco-design of Packaging	Raw Materials	Reduction in Raw Material Consumption
	Supplier Sustainability Program	Carbon Footprint Reduction – Raw Materials	Reduction of Supplier Carbon Footprint Through the Use of Raw Materials with Lower Emission Factors

We also carried out a project prioritization matrix that took into account 5 aspects:

- Weight on Scope
- Reduction of tCO_2e/m^2
- Implementation capacity
- Costs vs. financial returns
- Operational risks.

Thus obtaining the highest priority projects to be implemented by the company by 2030.

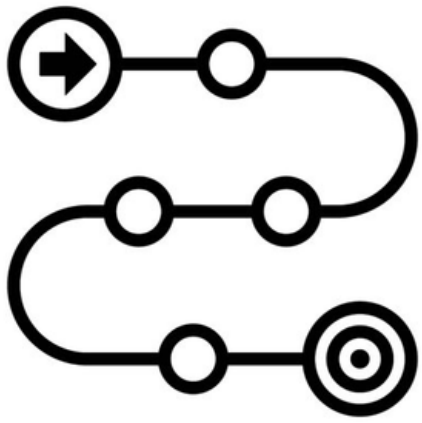


Based on the previous analysis, the projects to be prioritized are as follows:

	Source	Weight Scopes 1&2	Lever	Project	Reduction % / m2 produced 2030
Scope 1	Stationary Sources – Natural Gas Consumption	91.17%	Use of Grid Electricity	Grid Electricity vs. Natural Gas Use	22.4%
			Renewable Energy	Renewable Enery - Solar Panels	3.7%
				Solar Energy Pilot - Commercial Building Roof	0.1%
			Energy Efficiency Study and Operational Improvements	Energy Efficiency Study and Operational Improvements	3.1%
	Source	**Weight Scope 3**	**Lever**	**Project**	**Reduction % / m2 produced 2030**
Scope 3	Raw Materials – Solvent	6.23%	Solvent Reduction	Volatiles Recovery from solvents	3.1%
	Raw Materials – Substrates	10.60%	Substrate Reincorporation	Circularity in ExLam: Incorporation of PIR in Company Multipacks – Reduction of LDPE Consumption	0.5%
	Raw materials	74.43%	Eco-design of Packaging and Supplier Collaboration	Packaging Eco-design: Weight Reduction per m²	6.0%
		16.18%		Use of Materials with Lower Emission Factors	7.0%

Targets

Taking into account the prioritized projects, the carbon footprint analysis, and additionally taking the Science-Based Targets Initiative as a guide, we set intensity targets for our plan, with a short-medium timeline of 8 years, taking 2023 as the base year and setting targets for 2030. The definition of targets was based on an action plan, to be implemented during the 5 years remaining from the publication of this report.



Over the next few years, new actions will be explored to give this plan a broader scope, and the plan will be updated accordingly.

Scopes 1 & 2

By 2030, we will reduce GHG emissions per m² of product by 29% (compared to 2023).

Scope 3

By 2030, we will reduce GHG emissions per m² of product by 17% (compared to 2023)

Prioritized projects

Scopes 1 & 2

Stationary sources - Natural gas consumption

Basic information on natural gas consumption and GHG emissions generated in 2023 is presented below:

GENERAL DATA ON NATURAL GAS CONSUMPTION FOR LITOPLAS IN 2023	
Natural gas consumption in 2023	3,942,017 m^3
GHG emissions associated with natural gas consumption in 2023	7,808 tCO_2e
GHG emissions calculated for 2030 including Litoplas' growth projection	7,313 tCO_2e

IIt is important to highlight that by 2030 the company will be operating a new plant in Guatemala. This will result in an expected 98% growth in production, which means that we will almost double the number of m^2 produced.

This plant will be supplied with energy from the national electricity grid, which implies an increase in the carbon footprint of Scope 2. But, on the other hand, it represents a reduction in the carbon footprint per m2 produced in Scope 1, considering that the Guatemalan electricity grid has an emission factor of 0.2687 $KgCO_2e$ e vs. 1.98 $KgCO_2e$ emitted by the generation of electricity from natural gas from the plant in Colombia. Including the projected growth, this gives a considerable improvement in tCO_2e per m^2 produced.

Transitioning to renewable energy sources and improving energy efficiency are key pillars of our company's decarbonization strategy. We are committed to exploring all available options to reduce natural gas consumption, including the installation of solar panels on plant roofs, the acquisition of renewable energy through PPA contracts, and the implementation of energy efficiency measures in our production processes.

These actions will not only reduce Scope 1 emissions but will also generate long-term economic savings and strengthen the company's resilience to changes in the energy market. The prioritized Scope 1 decarbonization levers are:

PROJECT 1: REDUCTION IN ENERGY USE FROM THE ELECTRIC GRID VS. NATURAL GAS

Description	This project considers the use of the electric grid as a source to achieve the company's growth. This consumption is primarily due to the production plant located in Guatemala, which will be supplied by the country's electrical grid.
Justification	Natural gas consumption is a significant source of greenhouse gas emissions. The transition to other energy sources, in this case to Guatemala's energy mix, significantly reduces the carbon footprint per ton produced.
Percentage of implementation by 2030	100%
Consumption of kWh from the electrical grid	12,961,599 kWh/year
Expected reduction in natural gas consumption due to the implementation of the project	0% in 2025 17.4% in 2030
GHG emission reductions	2,479 tCO_2e/year
Reduction in Scope 1&2 per m2 by 2030	22,4%
Additional benefits	Significant reduction in energy operating costs, reduced investment in gas-fired power generation engines. Direct contribution to reducing the company's carbon footprint and meeting corporate sustainability goals.
Challenges and considerations	Loss of independence in power generation, potential power system failures can disrupt production continuity and efficiency leading to shutdowns in printing, lamination, or extrusion runs. Energy price volatility, and the emission factor may be affected depending on the energy inputs to the national electricity grid.

*The figures presented are estimates based on the projects to be developed

PROJECT 2: SOLAR ENERGY PILOT ON COMMERCIAL BUILDING ROOF

Description	Implementation of a commercial building rooftop solar energy pilot project to evaluate the technology's feasibility and performance prior to larger-scale deployment.
Justification	It allows us to obtain real-world data on solar energy efficiency under specific Litoplas conditions and adjust our strategy accordingly.
Percentage of implementation by 2030	100% of the commercial area
kWh consumption from the pilot project	31,759 kWh/year
Expected reduction in natural gas consumption	0.2% in 2030
GHG emission reductions	17 tCO_2e/year
Reduction in Scope 1&2 per m2 by 2030	0.1%
Additional benefits	Reduction in daytime energy consumption, especially for HVAC, lighting, and technological equipment. Improved reputation. Efficient use of available roof space without interfering with business operations. Possibility of participating in net metering schemes or selling surplus energy, in accordance with local regulations. Alignment with ESG and sustainability goals.
Challenges and considerations	Variable energy demand, architectural or regulatory restrictions that may limit installation; risk of shading from urban elements such as trees, poles, or other buildings that affect panel efficiency; and limited available space, which may reduce the impact of the solar system. Requires a detailed analysis of technical feasibility and financial return tailored to the commercial consumption profile.

*The values presented are estimates based on the projects to be developed

PROJECT 3: RENEWABLE ENERGY - SOLAR PANELS

Description	This project involves installing solar panels on the plant's roofs to generate renewable energy and reduce dependence on natural gas for electricity generation. The goal is to replace the energy produced at the power plant with renewable energy.
Justification	Natural gas consumption is a significant source of GHG emissions. The transition to solar energy will significantly reduce these emissions and contribute to Litoplas' energy independence.
Percentage of implementation by 2030	10% of the current consumption of the gas-fired power generator
kWh consumption from the pilot project	1,728,000 kWh/year
Expected reduction in natural gas consumption due to the implementation of the project	7.2% in 2030
GHG emission reductions	910 tCO_2e/year
Reduction in Scope 1&2 per m2 by 2030	3.7%
Additional benefits	Significant reduction in energy operating costs by generating clean energy on-site, reducing dependence on the electricity grid, and stabilizing expenses in the face of tariff increases. Improved energy efficiency through distributed generation. Access to tax benefits, regulatory incentives, and deductions for investment in clean technologies. Direct contribution to reducing the carbon footprint and meeting corporate sustainability goals.
Challenges and considerations	High initial investment requiring strategic financial planning and ROI assessment. Potential roof structural limitations. Need to establish an operation and maintenance (O&M) plan with trained personnel to ensure system performance, efficiency, and durability. Operational risks if adequate monitoring or storage systems are not integrated. Regulatory complexity in certain contexts may require specific permits and paperwork.

*The figures presented are estimates based on the projects to be developed

PROJECT 4: ENERGY EFFICIENCY

Description	Conducting a comprehensive energy efficiency study at our main operating plant to identify areas for improvement and opportunities to optimize energy consumption.
Justification	Energy efficiency is a cost-effective way to reduce GHG emissions and improve a company's competitiveness. It identifies key areas and actions that can reduce energy consumption and, consequently, the power generator's gas consumption.
Percentage of implementation by 2030	100% of the Colombia's operation
kWh consumption to be reduced by 2030	737,252 Kwh /year 2025 810,690 Kwh /year 2030
Expected reduction in natural gas consumption	5% in 2030
GHG emission reductions	340-390 tCO_2e/year
Reduction in Scope 1&2 per m2 by 2030	3,1%
Additional benefits	Precise identification of energy-saving opportunities through analysis of consumption, processes, and equipment. Reduction of operating costs by optimizing energy use in key systems such as lighting, air conditioning, motors, and industrial processes. Compliance with local and international regulations. Technical foundation for future investments in efficient technology and renewable energy, with a focus on return on investment and emissions reduction.
Challenges and considerations	It requires detailed data collection and monitoring of actual consumption, which requires time, technical resources, and access to the operation. There may be resistance to change from operational or maintenance personnel in response to recommendations for improvement. Initial investment in auditing, instrumentation, or measurement systems must be included in the budget. The need for specialized technical personnel or external consultants to interpret the results and propose viable solutions.

*The values presented are estimates based on the projects to be developed

Scope 3

Raw Materials and Inputs

At Litoplas we recognize that circular economy is a key model to reduce the environmental impact of the plastic packaging industry. For this reason, we are committed to promoting the recovery and recycling of raw materials, such as the recovery of solvent volatiles, the incorporation of PCR and PIR material in packaging and the use of more efficient technology. In addition, we are working hand in hand with our suppliers to support them in implementing sustainability strategies.

The recovery of volatiles will allow us to reduce the amount of solvents released into the atmosphere, while the incorporation of PCR will reduce the demand for virgin plastics and promote recycling. Likewise, through the use of technology such as the Exlam machine, we reduce the consumption of inks and solvents and increase the use of recycled materials. These initiatives will not only contribute to the reduction of Scope 3 emissions, but will also reinforce Litoplas' commitment to sustainability and act as a driver of sustainability throughout its value chain.

PROJECT 1: VOLATILES RECOVERY FROM SOLVENTS	
Description	The volatiles recovery project involves the installation of a compact conventional solvent recovery plant. This system is expected to recover an average annual flow of 760 metric tons of solvent.
Justification	Volatile waste recovery reduces the amount of solvents consumed as raw materials and inputs in the printing process, directly reducing the GHG emissions generated by the consumption of these raw materials.
Expected project implementation percentage by 2030	100%
Expected reduction in solvent consumption	72% in 2030
GHG emission reductions 2030	2,294-3,316 tCO_2e/year
Reduction in Scope 3 footprint by 2030	3.1%

PROJECT 1: RECOVERY OF VOLATILES FROM SOLVENTS

Additional Benefits	Reduction of volatile organic compound (VOC) emissions into the environment. Recovery of solvents used in printing and laminating processes, which reduces overall consumption and raw material procurement costs. Improvement of the work environment by reducing exposure to harmful fumes, strengthening occupational health and safety. Optimization of the production process with less loss of inputs and greater operational efficiency. Direct contribution to sustainability and the circular economy goals.
Challenges and opportunities	High initial investment in specialized equipment such as adsorption, condensation, or distillation systems, requiring detailed technical and financial analysis. Complex integration with existing processes may involve redesigning ducts, ventilation systems, or operational adjustments. Constant monitoring and maintenance are required to ensure system efficiency and prevent dangerous vapor buildup. Strict compliance with industrial safety standards due to the handling of flammable substances. Training of technical and operational personnel in the use of new technologies and environmental control protocols.

PROJECT 2: CIRCULARITY IN EXLAM - POST INDUSTRIAL RECYCLED MATERIAL (PIR)

Description	The plan is to utilize 100% of the installed capacity and acquire a new ExLam technology machine (extrusion and lamination), which allows the recovery of the refill that is generated as waste in the production process and reincorporates it in the form of pellets.
Justification	By recovering a raw material, in this case a substrate (LDPE), the consumption of raw material is reduced, reducing GHG emissions from this consumption.
Expected project implementation percentage by 2030	100%
Expected reduction in substrate consumption	6,8%

*The values presented are estimates based on the projects to be developed

PROJECT 2: CIRCULARITY IN EXLAM - POST INDUSTRIAL RECYCLED MATERIAL (PIR)

GHG emission reductions 2030	264-528 tCO_2e/ year
Expected reduction on Scope 3 footprint per m2	0.5%
Additional benefits	Reduction in the consumption of virgin raw materials by reincorporating recovered LDPE into the production process, especially in extrusion. Reduction in internally generated plastic waste, aligning the operation with circular economy principles. Significant savings in raw material costs, with a direct impact on operational and financial efficiency. Improved traceability of recycled material through controlled sorting and reprocessing processes. Strengthening the company's environmental strategy by reducing its plastic footprint and demonstrating good waste management practices.
Challenges and opportunities	It requires investment in material recovery, grinding, and reprocessing systems (such as pelletizers or compactors). Adjustments to formulations and extrusion parameters to ensure compatibility with the re-incorporated material are required. Staff training is required in scrap segregation and monitoring the performance of recycled material in production.

PROJECT 4: COLLABORATION WITH SUPPLIERS

Description	We seek to work collaboratively with suppliers to identify, evaluate, and prioritize the use of materials with lower GHG emissions, as well as to promote eco-design practices that minimize environmental impact from the product formulation stage. Special attention will be paid to key raw materials such as inks, varnishes, BOPP, and LDPE.
Justification	This project responds to the need to reduce emissions at source through a sustainable procurement strategy. Furthermore, strengthening sustainability criteria throughout the value chain contributes to competitive differentiation and addresses customer and regulator concerns regarding product traceability and environmental performance.

*The values presented are estimates based on the projects to be developed

PROJECT 4: WORKING WITH SUPPLIERS	
Expected project implementation percentage by 2030	100%
Expected reduction in consumption of raw materials	8%
GHG emission reductions 2030	13,597 tCO_2e/year
Expected reduction of Scope 3 footprint per m2	12,8% tCO2e
Additional benefits	Direct reduction of the final product's carbon footprint through the use of raw materials with lower emission factors. Promotion of innovation and eco-design as key tools for developing sustainable packaging solutions. Strategic relationships with suppliers. Improved positioning with customers who value responsible practices and products with low environmental impact. Compliance with national and international environmental standards and regulations.
Challenges and opportunities	This project opens the door to strategic alliances with sustainable suppliers, the creation of low-carbon products, and access to climate certifications and incentives. However, it faces challenges such as the limited availability of lower-impact raw materials, potential cost increases, and the need to adjust internal processes and purchasing criteria.

Decarbonization Plan

As a company, we are committed to reducing the environmental impact of our operations. Climate change is one of the greatest challenges of our time, threatening both life and the planet's balance. As a plastic packaging producer, we recognize both the responsibility and the opportunity to lead a shift toward more sustainable practices. We believe that taking action today not only protects the environment but also fosters trust, drives innovation, and helps build a sustainable future

Strategic Actions

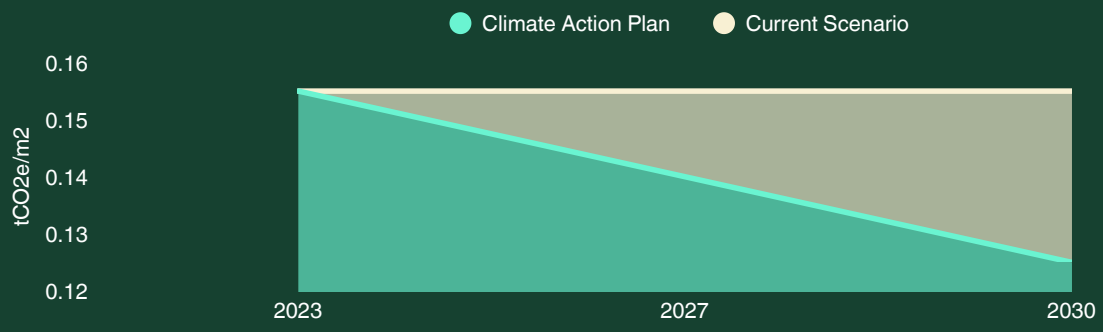
Increase efficiency in our processes and operations.	• Energy efficiency studies • Management plans and efficient use of resources • Efficient operation protocol
Use of renewable energy in our operations	• On-site renewable energy project - production plant • On-site renewable energy project - commercial area
Gradually increase the use of recycled plastics and introduce low-carbon raw materials.	• Integrate recycled materials into our secondary packaging • Invest in R&D to adopt low-carbon raw materials • Promote low-carbon practices across our value chain
Reduction in raw material and input consumption	• Recovery and reuse of inputs across operational processes • Implementation of innovative technologies • Offering low-carbon packaging solutions • Eco-design applied to packaging" • Engaging suppliers in sustainability efforts

Scope Goal 1 & 2

By 2030, we will reduce GHG emissions per m^2 of product by 29% (compared to 2023).

Scope 3 Goal

By 2030, we will reduce GHG emissions per m^2 of product by 17% (compared to 2023)



Target Scope 1, 2 & 3: By 2030, we will reduce our carbon footprint per m^2 of product by 19% (compared to 2023)

We are committed to further reducing the carbon footprint of our direct and indirect operations. This marks the first step in a broader effort to drive action over the next five years. We will continue strengthening our targets and will establish a clear roadmap toward 2050.

Conclusions

At Litoplas, we reaffirm our commitment to climate action after conducting a detailed analysis of our carbon footprint for the base year 2023, covering Scope 1, 2 and 3 under the GHG Protocol. This analysis allowed us to identify that more than 80% of our GHG emissions correspond to Scope 3, particularly the use of raw materials and inputs, while Scope 1 is dominated by the consumption of natural gas in our internal generator.

Based on this information, we defined intensity reduction targets that are in line with our growth projections and that will enable us to reduce our footprint per square meter produced:29% for Scope 1 and 2, and 17% for Scope 3 by 2030.

By prioritizing strategic projects such as the installation of solar systems, energy efficiency, solvent recovery, the incorporation of recycled materials and the reduction of ink consumption, we are drawing up a concrete and viable roadmap towards a more sustainable operation.

Recommendations

This decarbonization plan was developed with the support of the consulting firm Neuttro, which, based on the information collected and the established goals, made the following recommendations for its implementation:

- It is recommended to progressively implement prioritized projects, starting with those with the greatest impact on GHG emissions reduction, especially those related to energy efficiency and on-site renewable energy generation.

- It is essential to consolidate alliances with strategic suppliers to advance the reduction of Scope 3 emissions, promoting the use of raw materials with lower carbon intensity and developing joint circular economy projects.

- It is important to monitor and update the carbon footprint annually to assess progress against the proposed targets and review the feasibility of future participation in initiatives such as SBTi as operations and the regulatory environment evolve.

- It is necessary to invest in training and organizational culture, strengthening internal technical capabilities to implement clean technologies, manage sustainability data, and lead environmental innovation processes throughout the company.

- It is recommended to explore new sources of green financing or government incentives that support decarbonization projects and ensure their long-term economic sustainability.

- Finally, Neuttro recognizes the efforts Litoplas is making to reduce its carbon footprint and the leadership role it has taken in the industry in implementing these types of initiatives. It also encourages companies to continue working toward a low-carbon future and encourage other companies in the sector to initiate their decarbonization processes.

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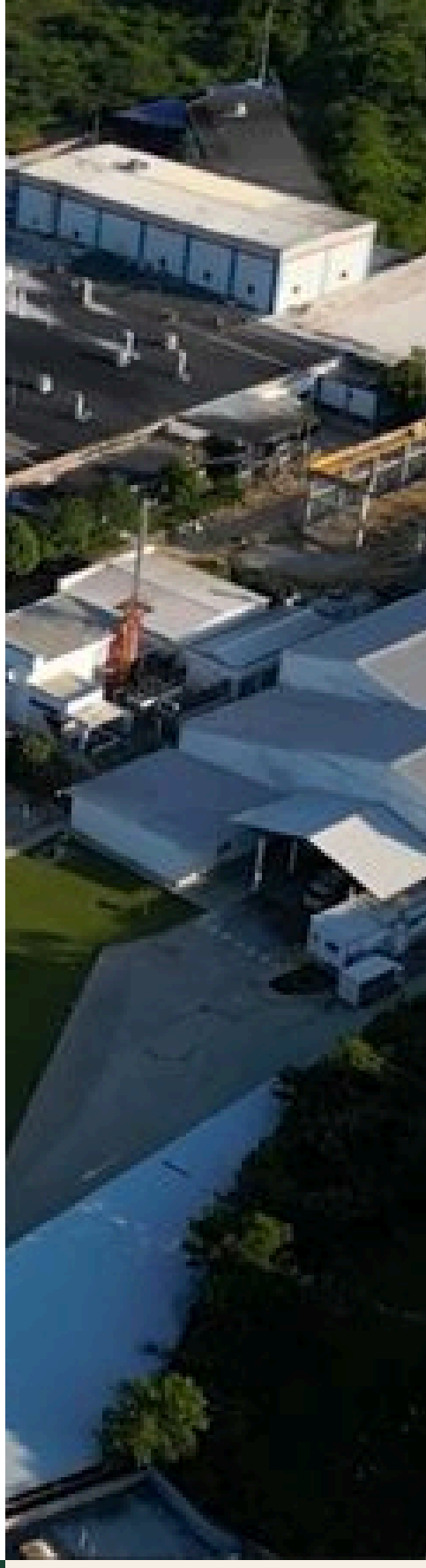

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neuttro