



Carbon Footprint Report 2025

ESG // SUSTAINABILITY

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BLOCK I: STRATEGY AND GOVERNANCE (ESRS 2 and E1)

1.1 Organizational Context and Strategic Profile

1.1.1 Organization Profile

Oribay Group Automotive S.L. is an international benchmark company in the automotive sector, specializing in the design, development, and manufacture of highly engineered components for vehicle glass (Auto Glass). With over 30 years of experience, the organization has established itself as a strategic partner for Original Equipment Manufacturers (OEMs) and the Automotive Glass Replacement (AGR) market.

- **Headquarters:** Calle Portuetxe 18, 20018 Donostia - San Sebastián (Gipuzkoa, Spain).
- **Industrial Capacity:** The group has production plants and engineering centers in Spain (San Sebastián, Pamplona, and Mendaro), as well as a logistics and commercial network with offices in the USA, Mexico, Turkey, and China.

Main Business Lines:

- ☐ **Windshield Components:** ADAS camera brackets, rearview mirror buttons, and sensor brackets.
- ☐ **Adhesive Solutions:** Structural bonding tapes (Ori-Tape™) and adhesion promoters.
- ☐ **Electronics and ADAS:** Fog sensors, camera heaters, and diagnostic systems.
- ☐ **Functional Coatings:** Applied nanotechnology for rain repellents and anti-fog (Ori-Fog™).

1.1.2 Mission, Vision, and Values in Sustainability

Oribay not only manufactures components but also designs solutions that drive sustainable mobility. Its vision is aligned with the transition towards electric and connected vehicles, where material lightness and energy efficiency are critical.

- **"Green" Commitment:** The company aims to reduce its emissions by 45% by 2030.
- **Recognized Excellence:** Holds the EcoVadis Gold medal (2023), ranking in the Top 5% of the most sustainable companies worldwide in its sector.
- **Responsible Innovation:** Strategic alliances with technology centers such as Tekniker and Polymat to research sustainable raw materials.

1.1.3 Business Model and Resilience

Oribay's business model is based on vertical integration (from R&D to manufacturing), allowing for total control over quality and environmental impact. The company's resilience to climate change is based on its capacity for innovation, adapting its products to maximize the range of electric vehicles (e.g., coatings that reduce the use of air conditioning, saving up to 6% of battery life).

1.2 Management of Climate Risks and Opportunities

1.2.1 Physical Risks (Chronic and Acute)

Oribay has identified a sustained increase in summer temperatures at its headquarters in Donostia-San Sebastián. This phenomenon entails two direct impacts on operations:

- **Increased Energy Consumption:** The need for cooling (air conditioning) in both office areas and production lines has grown to maintain product quality standards and the thermal comfort of workers. This poses a risk of an increase in Scope 2 emissions.
- **Power Grid Vulnerability:** A decrease in the quality of energy from the public grid has been detected. Voltage instability or micro-outages pose a risk to Oribay's precision machinery, reinforcing the need to move towards energy self-sufficiency.

1.2.2 Opportunities and Resilience

Renewable Self-Consumption: The installation of photovoltaic panels in Phase I has proven to be a critical mitigation measure, reducing dependence on the grid and stabilizing energy costs.

Sector Leadership: Early adaptation to low-carbon processes positions Oribay as a preferred supplier for OEMs that already demand strict decarbonization targets from their supply chain.

BLOCK II: METHODOLOGY AND BOUNDARIES (ISO 14064-1 & GHG PROTOCOL)

This inventory has been designed to provide a true and transparent picture of Oribay Group Automotive's Greenhouse Gas (GHG) emissions, following the principles of relevance, completeness, consistency, transparency, and accuracy.

2.1 Organizational Boundaries

Oribay applies the **operational control approach**. This means that 100% of the emissions from all facilities where Oribay has the authority to introduce and implement its operating policies are accounted for.

Facilities included:

- **Headquarters and Production Plant:** Portuete, San Sebastián.
- **Logistics and Production Center:** Pilotegi, San Sebastián.
- **R&D Centers and technical offices** linked to the group in Spain.

Geographical Scope: The report consolidates activity data in Spain, factoring in international logistics operations linked to Scope 3.

2.2 Operational Boundaries (Emissions Categorization)

Following the GHG Protocol standard and European regulations, emissions are classified into three scopes, with Scope 3 having been significantly expanded in this fiscal year:

2.2.1 Scope 1: Direct GHG Emissions

Emissions from sources that are owned or directly controlled by Oribay:

- **Stationary combustion:** Industrial processes such as propane consumption for the Sintering plant.
- **Mobile combustion:** Company vehicle fleet (internal combustion).
- **Fugitive emissions:** Potential leaks of refrigerant gases in office and plant HVAC (Heating, Ventilation, and Air Conditioning) systems.

2.2.2 Scope 2: Indirect Energy Emissions

Emissions derived from the generation of purchased electricity consumed by the organization:

Grid electricity consumption: Electricity required for production machinery, LED lighting, and IT systems.

Methodological note: These are reported under the "Market-based" approach (considering renewable energy guarantees of origin and the plant's photovoltaic self-consumption) and the "Location-based" approach (average of the Spanish electricity mix).

2.2.3 Scope 3: Other Indirect Emissions (Value Chain)

This year, under the ESRS E1 standard, Oribay includes the most material categories of its indirect impact:

- **Category 1 (Purchased Goods and Services):** Impact of the extraction and manufacturing of raw materials (steel, plastics, glass) and industrial gases (Nitrogen and Hydrogen).
- **Categories 4 and 9 (Upstream and Downstream Transportation):** Logistics flow of components from suppliers and to international customers.

- **Category 5 (Waste Generated in Operations):** Emissions derived from the treatment of industrial waste.
- **Categories 6 and 7 (Business Travel and Employee Commuting):** Professional travel by plane/train and the daily commute of employees to the San Sebastián plants.

2.2.4 Time Boundary and Base Year

Reporting Period: January 1, 2025, to December 31, 2025.

Base Year: 2025 is established as the new reference base year for Scope 3, due to the improvement in the quality of the data obtained and the inclusion of new value chain categories that were not present in previous MITERD reports.

2.2.5 Greenhouse Gases

The inventory includes the seven Kyoto Protocol gases, expressed in tonnes of CO₂ equivalent (tCO₂e): Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur hexafluoride (SF₆), and Nitrogen trifluoride (NF₃).

BLOCK III: DETAILED RESULTS (SCOPES 1, 2, AND 3)

3.1 2025 GHG Emissions Inventory

3.1.1 Summary of Emissions by Scope

Base Year Update and Emissions Evolution (2024 vs. 2025) In this report, Oribay Group has established 2025 as the new reference base year for its emissions inventory. This methodological update responds to the fact that, during the 2024 financial year, the impact corresponding to our value chain (Scope 3) was not calculated. Therefore, 2025 represents the first year in which the organization has a complete, comprehensive, and rigorous overview of its global carbon footprint (Scopes 1, 2, and 3).

However, when analyzing the evolution of environmental performance compared to last year's data (which only covered Scopes 1 and 2), the plant shows an extraordinary improvement driven by a drastic reduction in direct emissions:

- **2024:**
 - Scope 1: 269.55 tCO₂e
 - Scope 2: 426.66 tCO₂e
- **2025:**
 - Scope 1: 21.094 tCO₂e
 - Scope 2: 416.49 tCO₂e

This spectacular drop in Scope 1 (a reduction of over 90%) more than offsets the slight increase in Scope 2. This uptick in indirect emissions is a logical consequence of the widespread increase in production and the commissioning of new industrial equipment, as well as the full-year operation of the new sintering furnace.

Thanks to investments in photovoltaic panels and energy efficiency (LED lighting), the organization has managed to decouple its production growth from its operational emissions, maintaining GHG intensity at highly efficient levels.

Scope	Emission Category	Emissions (tCO ₂ e)	% of Total
Scope 1	Direct Emissions (Fleet, Combustion, Fugitive)	21.094 tCO ₂	0,15%
Scope 2	Indirect Emissions (Electricity - Market-Based)	416.49 tCO ₂	2,88%
Scope 3	Indirect Carbon Footprint	14,047.20 tCO ₂	96,97%
	Category 1: Purchased Goods and Services	11,198.19 tCO ₂	
	Category 9: Downstream Transportation and Distribution	1,670.27 tCO ₂	
	Category 4: Upstream Transportation and Distribution	1,108.318 tCO ₂	
	Category 7: Employee Commuting	43.3 tCO ₂	
	Category 6: Business Travel	16,8763 tCO ₂	
	Category 5: Waste Generated in Operations	10,25 tCO ₂	
TOTAL		14,484.78 tCO ₂	100%

3.1.2 Scope 3 Breakdown (New European ESRS E1-6 Requirement)

This section details Oribay's indirect impact, which is essential for the transparency required by European regulations:

Category 1: Purchased Goods and Services

Calculating the impact of Oribay Group's upstream supply chain requires exhaustive monitoring of all materials purchased for the manufacture of its solutions (Auto Glass components, ADAS sensors, and adhesives).

For this reporting year, the inventory of raw materials and packaging consumed during 2025 has been categorized into major functional families. The emission factors corresponding to the extraction and primary production of each material have been applied, reflecting the following balance:

Material Family	Main Description	Emissions (tCO ₂ e)	% of Impact
Components and commercial products	Parts, sensor housings, membranes, connectors, fastons, and adhesive die-cuts.	9,568.57	85,44%
Industrial Gases	Hydrogen and Nitrogen consumption for plant processes.	1,044.27	9,32%
Non-Hazardous Raw Materials	Metal powders (Hoganax and stainless steel), liners, and antioxidants.	447.53	4,0%
Packaging	Cardboard, wooden pallets, plastics (film, bubble wrap, shrink wrap), and minor packaging.	56.11	0,5%
Hazardous Materials and Chemicals	Solvents (Acetone, Isopropanol), resins (DER), and chemical precursors.	71.36	0,64%
Office Supplies	Paper and labels for administrative and industrial use.	11.31	0,1%

As observed in the breakdown, the greatest impact within Oribay Group's operational purchases lies in Components and Commercial Products, which account for over 85% of the footprint in this category. This is consistent with the company's highly engineered business model, where the integration of electronic parts (sensors, connectors) and engineering plastics has a significantly higher embodied carbon load than base chemicals or packaging.

Furthermore, the detailed monitoring of Packaging (56.11 tCO₂e) demonstrates the organization's commitment to controlling its comprehensive logistical impact, paving the way for future eco-design initiatives and the reduction of single-use plastics in shipments.

- **Industrial Gases (Nitrogen and Hydrogen):** In the absence of specific supplier data, Oribay applies the Precautionary Principle, using secondary emission factors from European databases (e.g., Ecoinvent or ELCD) based on annual consumption volume to ensure this material impact is not omitted.

Industrial Gas	Consumption	Emission Factor	Emissions (tCO ₂ e)	Technical Source
Hydrogen	41,420 m3	11.90 Kg CO ₂ e/Kg	492.89	IEA / SMR Process
Nitrogen	551,388 Kg	1.00 Kg CO ₂ e/Kg	551.38	Ecoinvent/Air Separation
Total			1,044.27 tCO₂e	

Category 4: Upstream Transportation and Distribution

This category measures the impact of moving raw materials and components from suppliers to the organization's headquarters in Spain.

Recorded emissions: 1,108,318 tCO₂e.

Methodology and Assumptions (Estimation): Since the exact details of the transport modes in the upstream supply chain are not currently recorded directly in the company's logistics database, Oribay has applied an estimation based on the geographical origin of purchases to

ensure this impact is not omitted. The following scenarios have been established for this calculation:

- **European Suppliers:** It has been estimated that 100% of freight movements originating in Europe were carried out by road (truck).
- **Non-European (Intercontinental) Suppliers:** For international procurement outside Europe, a modal split of 70% by sea (standard freight) and 30% by air has been defined. The use of air transport in this proportion responds directly to emergencies and critical logistical needs to ensure the uninterrupted continuity of production lines.

This methodological approach allows Oribay to have a realistic picture of its procurement footprint, also establishing a starting point to improve the primary traceability of logistics data with suppliers in future reporting years.

Category 9: Downstream Transportation and Distribution

This includes emissions derived from the transport of finished products (camera brackets, sensors, adhesive solutions, and coatings) from Oribay's logistics centers to end customers.

Recorded emissions: 1,670.267 tCO₂e.

Strategic context: This is one of the most significant Scope 3 categories due to the company's strong international presence. Oribay operates as a strategic partner for Original Equipment Manufacturers (OEM) and the aftermarket (AGR).

Geographical impact: The volume of emissions reflects the complexity of the logistics network required to serve offices and customers in regions such as the US, Mexico, Turkey, and China. Long-distance journeys for the export of highly engineered components explain the greater weight of this category compared to inbound transportation.

Emissions (tCO₂) = [(Weight / 1000) x Total Distance x Emission Factor] / 1000

To calculate the carbon footprint, we first convert the weight of the goods into tons and multiply it by the total journey distance to obtain the transport volume in ton-kilometers (tkm). The corresponding emission factor for the mode of transport used is then applied to this figure: 1.090 kg CO₂/tkm for air freight or 0.136 kg CO₂/tkm for land routes. These are consistent values that

reflect the higher environmental impact of airplanes compared to trucks. Finally, the result of this operation is divided by 1,000 to convert the generated kilograms of CO₂ into tons (tCO₂), thus obtaining the standard metric unit required in official sustainability reports.

Category 7: Employee Commuting

This category covers emissions derived from the daily mobility of the workforce to the production plants and offices in Portuete and Pilotegi. The calculation was performed using an estimation based on the different modes of transport used and the actual distances from employees' residences to their workplaces.

Mobility Context and Public Infrastructure Limitations: To correctly interpret the data in this category, it is essential to consider the operational reality of the plants and the current limitations of the intercity public transport network in Donostia-San Sebastián and its surrounding municipalities.

A significant portion of Oribay Group's workforce is subject to industrial shift schedules that are incompatible with current public transport offerings:

- **Morning shift (06:00 AM start):** There is a practical lack of intercity and metropolitan public transport services operating early enough to ensure workers arrive at the facilities first thing in the morning.
- **Evening/night shift (10:00 PM finish):** Bus and train frequencies to the outskirts and neighboring towns at that time are very sparse, making it extremely difficult for employees to return home.

Impact on the Carbon Footprint: This lack of viable and safe public transport alternatives during critical time slots makes the private vehicle a structural necessity for a large part of the workforce. Therefore, emissions in this category are strongly conditioned by an external infrastructure factor, posing an added challenge for the company's internal sustainable mobility policies.

Category 6: Business Travel

This category includes emissions derived from professional travel by the workforce, primarily including international flights and other means of transport used for commercial and technical trips.

Challenge of Internationalization and Customer Proximity: Oribay Group has established itself as a strategic partner for Original Equipment Manufacturers (OEMs) in the automotive sector worldwide. This benchmark position involves commercial and engineering management that requires an active presence in key markets.

Complexity of Reduction: Reducing emissions in this category presents high complexity due to the geographical dispersion of the company's customer portfolio, with a particularly strong presence in the United States and Asia.

Strategic Need: The design and development of highly engineered components and ADAS solutions often require travel for technical validation, quality audits at customer plants, and the maintenance of strategic alliances that are difficult to entirely replace with digital channels.

Optimization Commitment: Despite the difficulty posed by geographical distance, Oribay is committed to prioritizing the use of videoconferencing technologies whenever operationally and technically viable, reserving transcontinental travel for those activities where the added value of physical presence is critical for business continuity and customer service.

Category 5: Waste Generated in Operations

Oribay Group monitors and manages the waste derived from its manufacturing processes for ADAS components, adhesives, and metal brackets. The calculation of this category includes the GHG emissions associated with the transport and final treatment of such waste.

Typology of Identified Waste

- **Non-Hazardous Waste:** Mainly scrap metal (steel/aluminum), glass rejects, cardboard packaging, and plastics.

- **Hazardous Waste:** Chemical sludge, contaminated packaging, machining oils, and rags with solvents/adhesives.

Inventory of Emissions from Waste Management

Waste Type	Estimated Quantity (kg)	Treatment Method	Emission Factor (kg CO ₂ e/kg)	Total Emissions (tCO ₂ e)
Non-compostable organic waste	2,772.92 Kg	R0101	0.45	1.25
Paper and Cardboard	13,178.71 Kg	R1201	0.021	0.2767
Plastics / Film	2,434.22 Kg	R3	0.021	0.0511
Light packaging	532.69 Kg	R1201	0.021	0.011
Other plastics	2,929.07 Kg	R3	0.021	0.062
Wood	13,855.71 Kg	R13	0.016	0.2216
Inert waste	74,740.95 Kg	D0502	0.005	0.373
WEEE (Electronic waste)	990 Kg	R4-R12	0.021	0.02079
Lamps	33 Kg	R1203	0.074	0.002442

Toner	714 Kg	R13	0.074	0.052836
Contaminated plastic packaging	578 Kg	R1	1.9	1.0982
Contaminated metal packaging	558 Kg	R4	0.48	0.26784
Contaminated glass packaging	23 Kg	D5	0.2	0.0046
Rags/paper impregnated with hazardous substances	1.295 Kg	D5	2.1	2.7195
Laboratory chemicals	834 Kg	D5	2.4	2.0016
Scrap metal	87,740 Kg	R12-R13	0.021	1.84254
Batteries	10 Kg	R4	0.021	0.00021
Empty aerosols	1 Kg	R1	2.1	0.0021
TOTAL CAT. 5	186,735.95 Kg			10.25644 tCO2e

3.1.3 Positive Impact and Circular Economy: Avoided Emissions from Metal Recycling

In line with its commitment to sustainability and resource optimization, Oribay Group Automotive applies the principles of the Circular Economy in the management of its industrial scrap. Beyond accounting for the emissions generated by the treatment of its waste, the organization monitors the positive impact derived from the proper segregation and recovery of its metal waste.

Recycling scrap metal (mainly steel and aluminum from production offcuts and rejects) and metal packaging avoids the need to extract and process virgin raw materials. Primary steel production is one of the most carbon-intensive industrial processes worldwide. By reintroducing these metals into the value chain through recycling treatments (R4, R12, and R13), Oribay generates a "carbon credit" or avoided emission.

For this reason, a negative emission factor (-1.48 kg CO₂e/kg) is applied to these materials, reflecting the net savings in Greenhouse Gas emissions compared to the production of new metal.

To guarantee maximum transparency and strictly comply with GHG Protocol standards, this environmental benefit is reported separately from the gross Scope 3 emissions, highlighting the following positive balance:

Type of Recovered Waste	Quantity (kg)	Treatment Method	Emission Factor (kg CO ₂ e/kg)	Avoided Emissions (tCO ₂ e)
Scrap metal	87.740	R12-R13 (Recycling)	-1.48	-129.855
Metal packaging	558.00	R4 (Recycling)	-1.48	-0.826
TOTAL	88,298.00			-130.681 tCO₂e

During the 2025 financial year, the efficient management of Oribay's metal waste successfully avoided the emission of over 130 tonnes of CO₂ equivalent into the atmosphere. This volume of avoided emissions more than offsets the gross carbon footprint generated by the transport and

treatment of the rest of the company's waste (12.76 tCO₂e), consolidating metal recycling as a fundamental pillar in the company's decarbonization strategy.

BLOCK IV: TRANSITION PLAN AND TARGETS

4.1 Decarbonization Strategy (ESRS E1-4)

Oribay Group has defined a clear roadmap to achieve climate neutrality, prioritizing actual emission reductions at the source over external offsetting. This strategy is based on the vertical integration model and our innovation capacity, which allows for total control over the environmental impact from design to manufacturing. The company's global commitment ("Green Commitment") establishes an ambitious target to reduce its emissions by 45% by 2030.

4.1.1 Implemented and Ongoing Mitigation Measures

Lighting Efficiency (LED): Replacement of 100% of traditional lighting with low-consumption LED technology in all production areas. This measure not only reduces baseline electricity consumption but also decreases internally generated heat, indirectly alleviating the load on HVAC systems.

Photovoltaic Self-Consumption (Phases I and II): The current photovoltaic installation has mitigated the impact of grid instability and energy price volatility. As a strategic objective for 2025, the solar park will be expanded to the second available area to maximize the energy independence ratio.

Electric Mobility (Scope 1): Progressive replacement of the internal combustion fleet. The first key milestone will be the acquisition of an electric van for internal logistics between the Portuete and Pilotegi plants, eliminating tailpipe emissions on short trips.

Infrastructure Efficiency: Conducting regular energy audits to optimize precision machinery. Structural improvements in HVAC systems are planned to implement more efficient systems than the current ones, responding to the increased thermal demand in summer.

Value Chain Optimization (Scope 3): After identifying that international transport (USA and Asia) and purchased goods represent the largest share of the footprint, Oribay will prioritize traceability with suppliers and the optimization of logistics routes to reduce the identified urgencies in air transport.

4.1.2 Climate Change Adaptation (Resilience)

Given the sustained increase in summer temperatures detected in Donostia-San Sebastián, Oribay has integrated the following measures into its risk management:

- **Climate Optimization:** Analyze more efficient HVAC mechanisms to cover production areas, reducing the use of air conditioners with refrigerants. This will improve thermal stress management.
- **Protection of Critical Processes:** Implementation of stabilization and energy backup systems to protect highly engineered machinery against micro-outages or degradation in the quality of the external power grid.

4.1.3 Quantifiable Reduction Targets

Oribay establishes 2025 as its new reference base year, given the significant improvement in data quality and the comprehensive inclusion of all material Scope 3 categories.

- **Short-Term Target (2027):** An 18.8% reduction in relative emissions compared to the base year, aligning with the decarbonization requirements of major OEM customers and European sustainability standards.
- **Long-Term Target (2030):** A 45% net reduction in total emissions.
- **Sustainability Excellence:** Maintain the leadership position recognized by the EcoVadis Gold medal, which places Oribay in the Top 5% of the most sustainable companies worldwide in its sector.

BLOCK V: FORMALIZATION AND MANAGEMENT COMMITMENT

The Management of Oribay Group Automotive S.L. ratifies, by signing this document, the accuracy and completeness of the data presented in this Carbon Footprint Report for the 2025 financial year. This inventory has been prepared following the principles of relevance, completeness, consistency, transparency, and accuracy, in accordance with the international standards of the GHG Protocol Corporate Standard and ISO 14064-1:2018, and aligned with the European ESRS E1 reporting requirements.

Through the approval of this report, the organization reaffirms its strategic commitment to the decarbonization of mobility, establishing 2025 as its new reference base year for tracking its emission reduction targets. Management commits to allocating the necessary resources for the implementation of the mitigation and adaptation measures detailed in the Transition Plan (Block IV), integrating climate resilience and the circular economy as fundamental pillars of its business model.

This document represents an exercise in transparency and corporate responsibility, remaining available to competent institutions, external auditors, and stakeholders for official verification and validation.

Approved by the Management of Oribay Group Automotive S.L.:

Jose Muñoz Santos

CEO Oribay Group