Category	Description
Company name	Paulig Group
Description of the company	Paulig is an international food and beverage company which was founded in 1876 and is 100% owned by the Paulig family. Our product selection includes Tex Mex, snacks, coffees, World Foods and spices. Our brands are Paulig, Santa Maria, Risenta, Poco Loco, Zanuy and Conimex, and we also manufacture products for our private label customers. We employ around 2 500 professionals and have production sites in six countries in Europe and source raw materials from around 80 countries worldwide; the largest raw materials in terms of volumes being wheat, corn, green coffee, tomatoes and oils.
Chosen consolidation approach (equity share, operational control or financial control)	Operational control.
Description of the businesses and operations included in the company's organizational boundary	Paulig reports scope 1 & 2 emissions from all production sites of fully consolidated companies. The GHG emissions from leased offices and warehouses that we have operational control of are also included in our scope 1 & 2 emissions. Scope 3 emissions are reported for all Paulig companies in the consolidated financial statements. Operations included are sourcing of raw materials, traded goods and packaging materials, incoming and outgoing logistics, manufacturing of products, as well as end-of-life treatment of packaging brought to market.
The reporting period covered	This methodology is applied to all our reporting years, i.e. from 2018 up to and including 2024.
A list of scope 3 activities included in the accounting	Category 1: Purchased goods and services Category 2: Capital goods Category 3: Fuel- and energy-related activities (not incl. in Scope 1 or 2) Category 4: Upstream transportation and distribution Category 5: Waste generated in operations Category 6: Business travel Category 7: Employee commuting Category 9: Downstream transportation and distribution Category 12: End-of-life treatment of sold products (packaging)
A list of scope 1, scope 2, and scope 3 activities excluded from the accounting with justification for their exclusion	**8. Upstream leased assets** Upstream leased assets are identified to include warehouses, machinery and equipment. As the use-phase scope emissions from the leased assets have already been accounted for in scope 1 & 2, thus, to avoid double-accounting, category 8 is excluded. **10. Processing of sold products** Paulig sells some intermediate food products that are further refined by downstream companies; these can be processed in many ways and accurate data collection of the different use cases is challenging; thus this category has been excluded. The estimated emissions of the processing of these intermediate products are 1 700 t CO2e/year, based on the GHG intensity of Paulig's Scope 1 & 2 emissions applied to the sold volume of intermediate products. **11. Use of sold products** Paulig sells a wide range of food and drink products; these can be processed and prepared in many ways and accurate data collection for the different use cases is very challenging. Since the preparation of food is not required by the GHG protocol, and due to the challenge in defining representative use cases, the category is excluded.

[1]

Category	Description
	13. Downstream leased assets

Paulig Group sources some coffee machines to-be-leased to out-of-home customers such as offices, coffee shops or restaurants, but the leasing contracts are made between the Paulig customer and a third-party finance company operating the leasing contracts and buying the machines from Paulig. Thus, Paulig does not operate as the lessor except for in few single cases which are considered to be immaterial from full scope 3 perspective. Therefore, category 13 is not relevant for Paulig.

14. Franchises

Category 14 is not relevant as Paulig does not own or operate any franchises.

15. Investments

Paulig does not operate in the professional investment sector. Thus, investment portfolio climate impact is excluded from the reporting. |
| Greenhouse gases included in the calculation | Scope 1: CO2, CH4, N2O, HFCs and PFCs.

Scope 2: CO2, CH4 and N2O

Scope 3: CO2, CH4 and N2O. For purchased goods and services, also HFCs and PFCs have been included for transport between farm and processing. |
| The year chosen as base year and rationale for choosing the base year | 2018 is the base year, which was the most recent year with readily available data when planning the Science-based climate targets (validated in 2020). |
| Base year emissions recalculation policy. | Base year emissions recalculation is triggered by any significant (> 5%) change in baseline emissions due to change in calculation principles or methodology or change in corporate structure. |
| If base year emissions have been recalculated, describe the context for any significant emissions changes that triggered the recalculation. | The base year has been recalculated for the year 2024 reporting due to changes in the calculation method. Overall, the emission factors used for all categories have been reviewed and updated. We have changed consolidation approach from equity share to operational control, but this change did not affect results significantly. For some categories, bigger method changes have been made, see details described below for these categories.

Scope 1. Emissions from biofuels have been divided between "CO2" and "CH4 and N2O", so that CH4 and N2O for biogenic fuel can be included in the "in scope" scope 1 emissions and the biogenic CO2 can be included in the "out of scope" scope 1 emissions. Carbon dioxide added in the packaging of products has been removed from scope 1 and instead been included in "purchased goods and services". All emission factors have been updated to a more recent figure from DEFRA.

Scope 2. Emission factors have been reviewed and updated for both the location-based and market-based calculation (market based is default in the reporting). Under the market-based approach, Scope 2 emissions from the use of renewable electricity and renewable district heating were reduced to zero due to the update of the emission factors. Under the market-based approach, Scope 2 emissions from the use of renewable electricity and renewable district heating were reduced to zero due to the update of the emission factors. For the market-based approach, the emission factors for our sites in Spain and Belgium (these sites did not have renewable electricity in 2018) have been updated for 2018 to reflect the residual mix for 2018; previously, the emission factors were based on the production mix, which is now replaced with the accurate residual mix emission factor. |

Category	Description
	Scope 3.1 Purchased goods and services. The method has been updated to use data on *purchased* raw materials and traded goods instead of using data on *sold* volumes of finished products. The data has also been made more granular than before, going from 12 categories of sold products to around 200 categories of purchased food and drink ingredients, finished food and drink products and packaging materials. Furthermore, the data source for the emission factors has been changed; instead of using selected LCA studies for the sold products as source for the emission factors, we now use the HowGood Latis database, which covers all 200 categories and takes into account the country of origin. This database includes the FLAG emissions, which will be needed for the FLAG target that we will submit to the SBTi in 2025. **Scope 3.4 and 3.9 Upstream and downstream transportation and distribution.** The method has been updated to utilize data on Paulig's actual incoming and outgoing transport from the ERP system, which is then processed to derive the GHG emissions using the BearingPoint CO2 calculation tool. In previous reporting the GHG emissions from incoming and outgoing transport were estimated based on volumes of sold products, divided into 12 categories, and applying generic emission factors for the transport of these 12 products from LCA studies. **Scope 3.11 Use of sold products**. This category has been removed from Paulig's GHG reporting. Previously, the brewing of coffee and popping of popcorn were included but have now been excluded. It is more consistent to either include the energy use for storing and preparing of all of our food products at the consumer/out of home customer, or to exclude this for all. Given the wide variety of preparation methods in both home and restaurant settings for our diverse product portfolio, and the difficulty in accurately estimating energy consumption, we have decided to exclude this category. Furthermore, the GHG Protocol does not mandate the inclusion of the use phase of food in GHG reporting. **Change in corporate structure.** Paulig acquired Panesar Foods Ltd in November 2024. The GHG data for this business will be incorporated into the 2025 GHG emissions reporting, as it will take some time to build the inventory for these sites. Therefore, Panesar Food's data has not yet been included in base year recalculation or in the data for any subsequent reporting years.

Greenhouse gas emissions data

Scopes and categories	Metric tonnes CO$_2$e	Share of scope 3 emissions	Primary data	Secondary data
Scope 1: Direct emissions from owned/controlled operations *	21,313		100%	
Scope 2: Indirect emissions from the use of purchased electricity, steam, heating, and cooling *	-		100%	
Category 1: Purchased goods and services	972,629		1%	99%
Category 2: Capital goods	14,760			100%
Category 3: Fuel- and energy-related activities (not included in scope 1 or scope 2) *	4,245		100%	
Category 4: Upstream transportation and distribution	27,360			100%
Category 5: Waste generated in operations	175			100%
Category 6: Business travel	1,708			100%
Category 7: Employee commuting	1,807			100%
Category 8: Upstream leased assets	Not relevant			
Downstream scope 3 emissions				
Category 9: Downstream transportation and distribution	23,692			100%
Category 10: Processing of sold products	Not relevant			
Category 11: Use of sold products	Not relevant			
Category 12: End-of-life treatment of sold products	5,524			100%
Category 13: Downstream leased assets	Not relevant			
Category 14: Franchises	Not relevant			
Category 15: Investments	Not relevant			

* The figure has been deducted with the use of Renewable Energy Certificates for biogas and electricity.

Biogenic CO$_2$ emissions data

Scopes and categories	Metric tonnes biogenic CO$_2$
Biogenic CO$_2$ emissions from owned/controlled operations (scope 1)	11,942
Biogenic CO$_2$ emissions from purchased goods and services (within scope 3)	12,316

*Biogenic emissions from district heating within scope 2 has not been calculated since it has been estimated to be relatively small

Description of methodologies and data used

Scope 1 or 2	Methodology used to calculate emissions, providing a reference or link to any calculation tools used
Scope 1	Scope 1 emissions include GHG emissions from Paulig's own factories' fuel consumption, fuel use of own vehicles and refrigerant leaks. Fuel usage data is reported monthly by the HSE manager at each site, who have obtained the consumption data either from facility specific metering or energy provider's reporting/invoicing. Refrigerant leakage data are obtained from the maintenance/service provider's mandatory maintenance reports & inspection documentation. GHG conversion factors for the fuels and refrigerants are obtained from Defra (Department for environment, food and rural affairs), UK. The GHG data are split into "in scope" and "out of scope" emissions. Refrigerants, CH4, N2O and fossil CO2 are in scope, while biogenic CO2 emissions are out of scope and therefore reported separately.
Scope 2	Scope 2 emissions include GHG from purchased electricity and district heating to Paulig's own operations. Electricity and heat usage data is reported monthly by the HSE manager at each site, who have obtained the data either from facility specific metering or energy provider's reporting/invoicing. The market-based approach is used for the reporting (in scope). Location-based emissions are reported separately (out of scope). For the market-based approach, the emission factor of zero is applied to renewable electricity and renewable district heating, and the emission factor for the residual electricity mix is applied to non-renewable electricity. For the location-based approach (not in scope), emission factors for electricity are taken from the AIB (Association of Issuing Bodies), and for district heating emission factors provided by the suppliers are used. Emission factors for the residual electricity mix are also taken from AIB, for the market-based approach, in cases where renewable electricity is not used. The electricity used at all sites is from renewable energy carriers. In 2018, the baseline year, our sites in Spain and Roeselare did not use renewable electricity; our sites in Spain switched to renewable in 2019 and sites in Belgium 2021.

Scope 3 category	Methodology used to calculate emissions, providing a reference or link to any calculation tools used
Category 1: Purchased goods and services	**For direct sourcing:** The purchased volume of raw materials, finished products (also named as traded goods) and packaging materials was used to quantify the purchased goods. The data are based on the invoices in Paulig's ERP system and has been validated against data on the volume of received goods. For traded goods, the volumes from the invoices have been split into the volume of the food, and the volume of the packaging materials. The data has been categorized according to type of goods, and country of origin. Altogether, there are 80 categories of raw materials (green coffee beans, wheat flour, palm oil, black pepper etc.), 96 categories of traded goods (these are finished products such as tomato salsa, cheese dip, fish sauce etc.) and 17 categories of packaging materials (cardboard, corrugated board, glass, flexible plastics etc.). For each category, the supplier has also provided information about the country of origin. However, there is often more than one country of origin provided; in such case we have assumed that the volume is split evenly between the countries of origin provided. For traded goods, the country of origin provided by the supplier is where the finished product was produced, and therefore not necessarily where the raw materials originated. Overall, this results in a list of about 2000 categories that covers both the types of goods and the corresponding country of origin. Each category has been assigned an emission factor by HowGood using the Latis database.

Scope 3 category	Methodology used to calculate emissions, providing a reference or link to any calculation tools used
	The emission factors in HowGood's Latis database are based on a continuously updated collection of more than 600 data sources, including peer-reviewed journal articles, academic conference proceedings, aggregated commercial databases and targeted industry LCA studies. The data covers GHG emissions from land use change, land management and non-FLAG (post-farm). When specific emission factors are available from our suppliers, these will replace the ones from HowGood. In the 2024 reporting, supplier-specific emission factors for wheat flour have been provided by Lantmännen. **For indirect sourcing:** The monetary spend was used to quantify the indirect sourcing. Emissions factors for the monetary spend on products and services were obtained from Exiobase v3.8.2 (2019 factors).
Description of the data quality of reported emissions	Good The quality of climate data is considered good. We are utilizing one of the largest food sustainability databases as a source for the emission factors, the Latis database in the HowGood platform. The carbon footprint data has been carefully aligned with the purchased goods and services data at a reasonably detailed level, taking into account the country of origin.
Percentage of emissions calculated using data obtained from suppliers or other value chain partners	Approx. 1% of GHG emissions from purchased goods and services were based on supplier primary data (wheat flour).
Category 2: Capital goods	Capital goods relate to capital expenditure on land, buildings & construction, machinery & equipment and other long-term investments. The activity data is based on the monetary spend on capital goods from the Paulig Group balance sheet during the reporting year. Spend data was obtained from Paulig internal accounting systems. Estimated GHG emissions from capital goods purchased during the reporting year were calculated based on categorizing the PPE (property, plant and equipment) additions into "land and water", "buildings and construction", "machinery and equipment" and "Advance payments and work in progress". The amount of monetary spend on each category was then multiplied by the respective GHG conversion factor and subsequently added up to the total GHG emissions from capital goods. Emission factors for the monetary spend were obtained from the Exiobase database (v3.8.2). The emission factors are without value added tax and have been inflation corrected for the year 2023. It is assumed that the used sector specific average-spend conversion factors do not include the use-stage energy consumption climate impacts of the buildings, machinery and equipment (which is included in scope 1 and 2 emissions).
Description of the data quality of reported emissions	Fair
Percentage of emissions calculated using data obtained from suppliers or other value chain partners	0%
Category 3: Fuel- and energy-related activities (not included in scope 1 or scope 2)	This category includes upstream emissions of purchased fuels, electricity and district heating (excluding from combustion of the fuels which is covered in scope 1 and 2), as well as transmission and distribution losses (T&D losses) of the electricity and district heating. For renewable electricity and district heating, the emissions from generation and T&D losses are assumed to be zero. For purchased fuels and non-renewable electricity (2018-2019), the emissions factors for upstream emissions and T&D losses were obtained from DEFRA (Ghg conversion factors 2024).

Scope 3 category	Methodology used to calculate emissions, providing a reference or link to any calculation tools used
Description of the data quality of reported emissions	Fairly good.
Percentage of emissions calculated using data obtained from suppliers or other value chain partners	0%
Category 4: Upstream transportation and distribution	Data on weights, shipments, location of start and end etc. from Paulig ERP system has been uploaded into the BearingPoint calculation tool, in which the well-to-wheel emissions have been calculated. This category covers transport from our suppliers to Paulig sites. The transport covers transport that we pay for, as well as the transport the suppliers pay for. Paulig Spain has been estimated due to that the integration of this business into BearingPoint has not been done yet. The estimate is based on the weights transported for each mode of transport and estimated transport distances for each mode of transport.

All transport modes are at ambient temperature, except for a minor share of traded goods, which is taken into account in the calculation. In the calculation in BearingPoint a percentage increase of the emissions has been added when the transport requires temperature control; 16% for frozen and 21% for chilled. These values were taken from a German source "CO2-Berechnung in der Logistik: Datenquellen, Formeln, Standards" (CO2 calculation in logistics: data sources, formulas, standards) from 2011. |
| Description of the data quality of reported emissions | Fairly good |
| Percentage of emissions calculated using data obtained from suppliers or other value chain partners | 0% |
| Category 5: Waste generated in operations | Waste generated at Paulig production sites and those offices located in the same buildings with production sites.

The activity data is the volume amount (kg) of waste by type and handling method collected and reported by Paulig waste service provider partners and their reporting systems and/or invoices.

Reported water consumption data was assumed to correspond to the amount of water being emitted to wastewater treatment by each production site.

Conversion factors were obtained from UK Defra's (Ghg conversion factors 2024). The factors consider transport to an energy recovery, composting, anaerobic or materials reclamation facility only. This is because the emissions from energy recovery, recycling, composting and anaerobic digestion are attributed to the user of the recycled materials/recovered energy, not the producer of the waste, in line with GHG Protocol Guidelines. In the case when the waste is incinerated without energy recovery, we have added the emissions from the incineration, with an emission factor taken from the Swedish EPA. |
| Description of the data quality of reported emissions | Fairly good |
| Percentage of emissions calculated using data obtained from suppliers or other value chain partners | 0% |
| Category 6: Business travel | This category covers business travel emissions from business travel by air, rail or car rental, and hotel nights.

Activity data regarding hotel nights and number of car rentals were obtained from the travel service provider CWT. Emission from air and rail travel were obtained directly from CWT. The emissions for air travel do not include a radiative forcing index (RFI); we have multiplied the emissions by 1,69 to take the RFI into account. The RFI was provided by CWT.

Emissions factors per hotel were obtained from DEFRA (Ghg conversion factors 2024) which in turn have taken the values from the Hotel footprinting tool. If a country was not available in the DEFRA data, |

Scope 3 category	Methodology used to calculate emissions, providing a reference or link to any calculation tools used
	we obtained a value from the hotel footprinting tool. The hotel nights were grouped into five geographic areas: Finland, Sweden, UK, Belgium and Estonia and "other". For other, a medium emission factor from the Hotel foot printing tool was chosen. Emissions factors per km driven by car were obtained from DEFRA (Ghg conversion factors 2024). It has been assumed that the average distance driven per car rental is 500 km, and the emission factor was chosen for an average sized car run on diesel.

Description of the data quality of reported emissions	Good

Percentage of emissions calculated using data obtained from suppliers or other value chain partners	0%

Category 7: Employee commuting	Employee commuting impacts calculated based on the number of active employees per each country of operation and estimating the country/area-specific profiles for average commuting distances on transportation methods with an average of 250 working days per year. The model for estimating emissions from commuting was made by consultant U&We in 2019 based on national statistics in each respective country. Emission factors for specific transportation methods (cars and buses) are based on UK Defra GHG conversion factors. This model has resulted in emission factors for four groups of countries which are then applied in the calculation: 1) BE/FR/NL/ES, 2) SE/NO/DK, 3) FI/EE/LT/LV and 4) UK. It is assumed that blue collars commute to work every day, and that from 2022 and onwards, white collars commute to work 60% of the working days as per company policy.

Description of the data quality of reported emissions	Fair

Percentage of emissions calculated using data obtained from suppliers or other value chain partners	0%

Category 9: Downstream transportation and distribution	Data on weights, shipments, location of start and end etc from Paulig ERP system has been uploaded into the BearingPoint calculation tool, in which the well-to-wheel emissions have been calculated. This category covers transport from Paulig sites out to our customers, and also transport in between Paulig production sites and warehouses. The transport covers transport that we pay for, as well as the transport the supplier pay for. Paulig Spain has been estimated due to that the integration of this business into BearingPoint has not been done yet. The estimate is based on the weights transported for each mode of transport and estimated transport distances for each mode of transport. All transport modes are at ambient temperature, except for a minor share of products, which is taken into account in the calculation. In the calculation in BearingPoint a percentage increase of the emissions has been added when the transport requires temperature control; 16% for frozen and 21% for chilled. These values were taken from a German source "CO2-Berechnung in der Logistik: Datenquellen, Formeln, Standards" (CO2 calculation in logistics: data sources, formulas, standards) from 2011. Transport of goods from our customer's warehouse to the grocery store or restaurant, and further on to the household have not been included. The emissions of these transport have been estimated to be ca 47 000 tonnes CO2e, where the transport by car from store to household constitutes the largest share of the emissions. This estimate is based on that all customers do their shopping by car, and that the car runs on fossil fuels, and that the round trip is 10 km.

Description of the data quality of reported emissions	Fair

Percentage of emissions calculated using data obtained from suppliers or other value chain partners	0%

Scope 3 category	Methodology used to calculate emissions, providing a reference or link to any calculation tools used
Category 12: End-of-life treatment of sold products	End-of-life treatment of sold products concerns the climate impacts from assumed waste management methods of the packages of products sold. Activity data used is the volume of purchased packaging material, as well as the packaging for the traded goods, during the reporting year. For the waste management, emission factors were obtained from UK Defra's (Ghg conversion factors 2024). The factors consider transport to an energy recovery or materials reclamation facility only. This is because the emissions from energy recovery and material recycling are attributed to the user of the recycled materials/recovered energy, not the producer of the waste, in line with GHG Protocol Guidelines. For plastic packaging, the material that gives fossil emissions when incinerated, it was assumed that 20% of the packaging was incinerated without energy recovery, based on statistics from Eurostat that ca 80% of all packaging in Europe goes to either energy or material recovery. The emission factor for incinerating plastic was taken from Smith et al. (2001): Waste management options and climate change.

Description of the data quality of reported emissions	Fairly good

Percentage of emissions calculated using data obtained from suppliers or other value chain partners	0%