BRADALS PRODUKTHANDEL

Climate Accounting Report

Scopes 1, 2, 3 - Baseline 2022

Bradals Produkthandel
Scope 1,2 & 3
2022 Baseline report

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tCO_2e

Greenhouse gas (GHG) emission results are shown in metric ton CO2-equivalents using representative Global Warming Potential (GWP) values unless other result units are stated.

1,200,000.75

Numbers are listed in point decimal format.
= One million two hundred thousand point seventy-five.

%

Percentages are rounded to the nearest whole number.

Executive summary

This report presents the climate accounting baseline results of reporting company Bradals Produkthandel.

Bradals Produkthandel conducted a comprehensive assessment of their environmental impact by undertaking a thorough inventory of scope 1 and 2 greenhouse gas emissions directly linked to their activities. Additionally, they also compiled and calculated a scope 3 inventory, focusing on specific categories.

These inventories shall serve as a reference for future initiatives on lowering the climate impact from business-related activities. The reason to carry out this corporate- and value-chain carbon footprint is therefore, to obtain a solid data foundation for decision-making on operational, tactical and strategic business management.

Scope 1 & 2

Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. The report content is presented upon requirements from chapter 9.

Scope 3

Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The report content is presented upon requirements from chapter 11.

Figure 1.1: Absolute result Scope 1,2 & 3 (tCO_2e)

TOTAL EMISSION:

6,245.37 tCO_2e

Scope 1, 2 & 3

Figure 1.2: Share split of the scope 1,2 and 3 inventory (%)

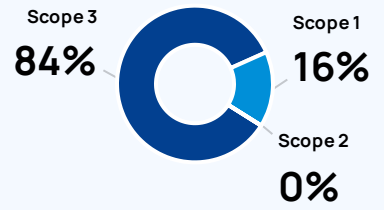
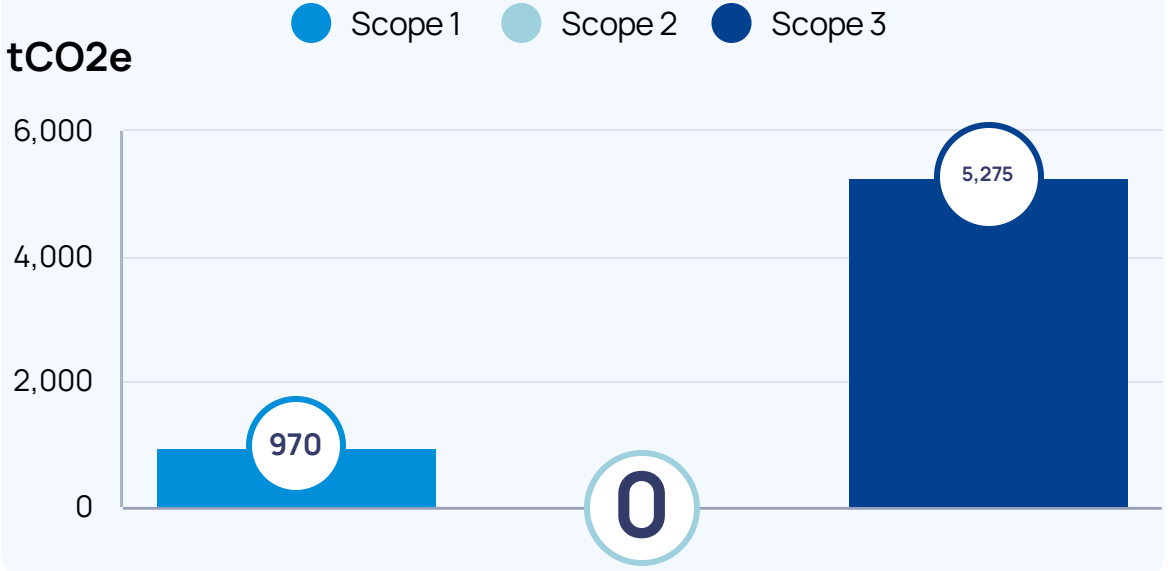


Figure 1.3: Absolute tCO_2e emissions of the scope 1,2 and 3 inventory (Market-based)



Organizational boundary: Operational Control

Reporting period: 01.01.2022 - 31.12.2022

Third-party verification: No

1. Introduction

Greenhouse gas inventory

Reporting principles

The Scope 1, 2 and 3 Baseline Report includes the greenhouse gas (GHG) emissions inventory results and a detailed description of Bradals Produkthandel's GHG emission sources. The report is published to transparently disclose the environmental aspects of the company's facilities, procedures and services to stakeholders. The report supports the purpose of measuring, monitoring, and managing the environmental performance of Bradals Produkthandel.

This inventory is produced and provided by SustainX with the recommended principles and criteria from the GHG Protocol Corporate Standard revised edition.

RELEVANCE

Company characteristics, stakeholder needs, organizational structures, business context and relationships

COMPLETENESS

All emissions within their chosen inventory boundary and, if some emissions are estimated insufficiently, instances are documented and justified

CONSISTENCY

Consistently apply inventory boundaries and calculation methodologies, and document and justify any changes to these

TRANSPARENCY

A clear and factual manner to allow users to confidently interpret the data

ACCURACY

Credible enough to use in decision making and that uncertainties should be reduced as far as is possible

CONSERVATISM

Utilizing conservative estimates when needed, to achieve a complete and representative inventory of activities and emissions

Purpose and organizational boundaries

Purpose

The GHG baseline emissions reporting was performed in accordance with the GHG Protocol Corporate Accounting and Reporting Standard and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

The report includes all mandatory information as required by the standards, and excludes non-mandatory details, as well as data not falling within the relevance principle.

This report presents the calculation results and qualitative descriptions of Bradals Produkthandel GHG inventory, which were carried out with input from an internal steering committee representing the company administration, supplying the inventory with relevant and correct activity data.

The baseline calculation will serve the following purposes:

- Measuring and tracking company emissions
- Increasing the internal knowledge about the company's sustainability profile
- Communication to a broader group of stakeholders

Organizational boundaries

( ) Equity share
( ) Financial control
(X) Operational control

The organizational boundaries are set upon the consolidation approach of combining emissions data from separate operations in 'Operational control', by having the authority to introduce and implement operating policies. As Bradals Produkthandel has control over all internal operations, the company can influence the reduction of emissions. The company has control over administrative costs and access to the necessary data for preparing the inventory.

The operational control approach is utilized throughout the baseline calculation, to ensure consistency across scope 1, 2 and 3 inventories.

Description of the reporting organization

Bradals Produkthandel is a private family-owned company, founded in 1950 by Carl Bang Bradal in Silkeborg, Denmark. The company operates independently and controls its own operations and activities, among which a number of vehicles and machinery, as well as buildings including a workshop and the office headquarters.

Operational boundaries

Scope 1 and 2

Boundary setting:

Period of coverage: **01.01.2022 to 31.12.2022**

Scope 1:

Includes all assets operated by Bradals Produkthandel and therefore includes all direct emissions resulting from activities hereof.

Scope 2:

Includes all facilities operated by Bradals Produkthandel and therefore includes all indirect emissions resulting from activities hereof.

Figure 1.4: List of included scope 1 & 2 categories

	Area/activity	Inclusion	Data completeness
Scope 1	Direct emissions from mobile combustion	✓	Included 100% for all facilities
	Direct emissions from stationary combustion	✓	Included 100% for all facilities
	Fugitive emissions	Not relevant	No fugitive emissions
	Process emissions	Not relevant	No process emissions
Scope 2	Purchased electricity	✓	Included 100% for all facilities
	Purchased heating	Not relevant	No purchased heating
	Purchased cooling	Not relevant	No purchased cooling
	Purchased steam	Not relevant	No purchased steam

Operational boundaries

Scope 3

Boundary setting:

Period of coverage: **01.01.2022 to 31.12.2022**

Scope 3 categories selection:

The activity data for Bradals Produkthandel baseline year scope 3 emissions were collected and calculated in the climate accounting software Klimakompasset. The categories from Figure 1.5 on which data were collected, but which are not included in reporting had insignificant emissions. The categories deemed 'Not relevant' are those on which no relevant activity data currently exists, but that may be included in future inventories.

Scope 3 categories included in baseline reporting:

Cat. 1: all upstream emissions (cradle-to-gate) from purchased goods and services.

Cat. 4: upstream emissions from all transport modes (cradle-to-grave), hereunder supplier scope 1 and 2 emissions throughout the supply chain of fuels.

Cat. 9: downstream emissions from all transport modes (cradle-to-grave), hereby end-user scope 1 and 2 emissions throughout the supply chain of fuels.

Figure 1.5: List of included scope 3 categories

	Area/activity	Inclusion	Data completeness
Scope 3	1: Purchased goods and services	✓	*100% of total relevant spending*
	2: Capital goods	✗	*Not relevant*
	3: Fuel- and energy related activities	✗	*0.57% of scope 3*
	4: Upstream transportation and distribution	✓	*Includes all operations; Road, Sea*
	5: Waste generated in operations	✗	*0.45% of scope 3*
	6: Business travel	✗	*Not relevant*
	7: Employee commuting	✗	*0.83% of scope 3*
	8: Upstream leased assets	✗	*Not relevant*
	9: Downstream transportation and distribution	✓	*Includes all operations; Road, Sea*
	10: Processing of sold products	✗	*Not relevant*
	11: Use of sold products	✗	*Not relevant*
	12: End-of-life treatment of sold products	✗	*Not relevant*
	13: Downstream leased assets	✗	*Not relevant*
	14: Franchises	✗	*Not relevant*
	15: Investments	✗	*Not relevant*

2. Results

Scopes 1 & 2

ABSOLUTE TOTAL EMISSION:

970.36 tCO_2e

Scope 1 & 2
Market-based

Baseline year, 2022

BRADALS PRODUKTHANDEL

Inventory information

Base-year information

The base year, 2022 was chosen on behalf of being a full calendar year with historical data. The scope 1 and 2 inventory will be calculated year on year. The threshold for a base-year recalculation is set to be: **5%** difference of GHG emissions in base-year inventory absolute results. For further explanation and context, please visit the policy section.

2022

Activity data

In the process of collecting inventory data for each included activity, a log was made according to the data quality hierarchy, which can be seen in figure 3.2 in the methodology section. The data presented in this report are produced with the ambition of achieving accuracy, which is credible for decision-making, and uncertainties have been reduced as far as is possible.

All data for both scopes 1 and 2 was gathered from the internal Bradal systems, i.e., accounting system UniConta for purchases of fuel for mobile combustion and natural gas for stationary combustion, as well as for purchased electricity. This primary data is therefore high quality.

Figure 2.1: Data quality - scope 1 - share of emissions in category

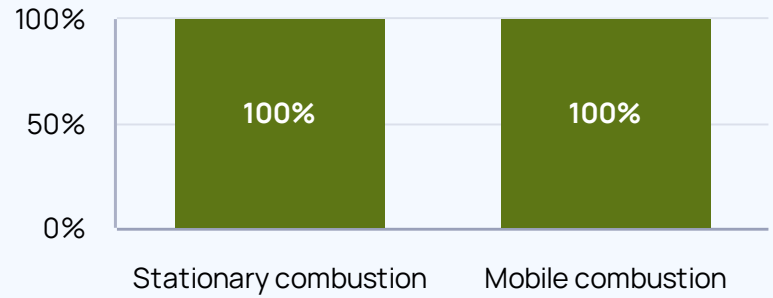
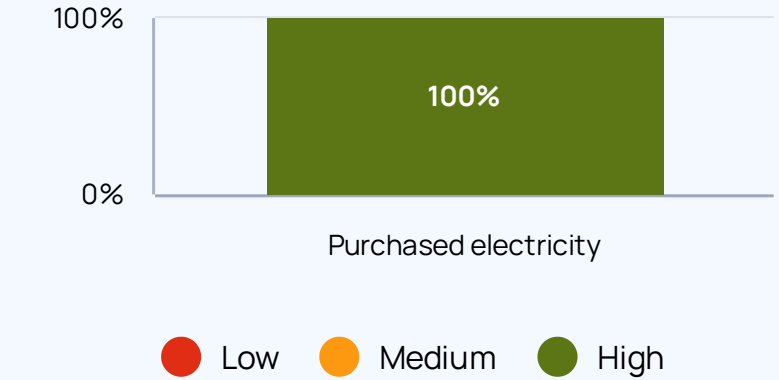


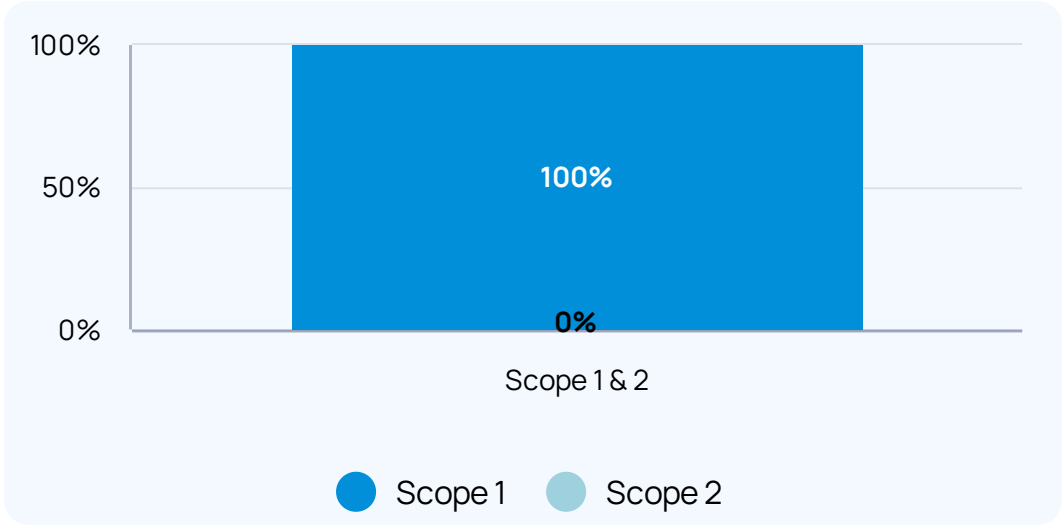
Figure 2.2: Data quality - scope 2 - share of emissions in category



Total emissions

As a result of the full CO_2e inventory calculation, the absolute emissions of all activities performed by Bradals Produkthandel in scope 1 & 2 are presented in figure 2.3 below. The absolute baseline result and future scope 1 & 2 results are reported with the use of the ***Market-based methodology***. For further information on this method and a description of exclusions, please visit the methodology section.

Figure 2.3: Total inventory emissions: Market-based results



Scope breakdown

The scope breakdown showcases the share of emissions relative to each scope (1 & 2) and according to the reporting methodologies: location- and market-based.

In the baseline year 2022, Bradals Produkthandel uses certificates for the purchase of renewable electricity (e.g. Guarantees of Origin) to cover 100% of the electricity use.

Figure 2.4: Scope distribution, Location-based

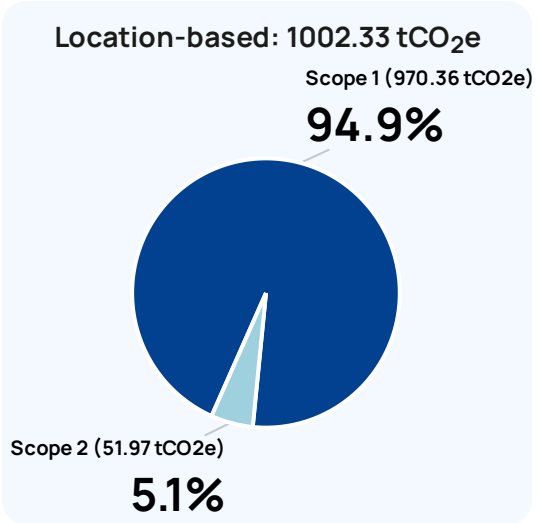
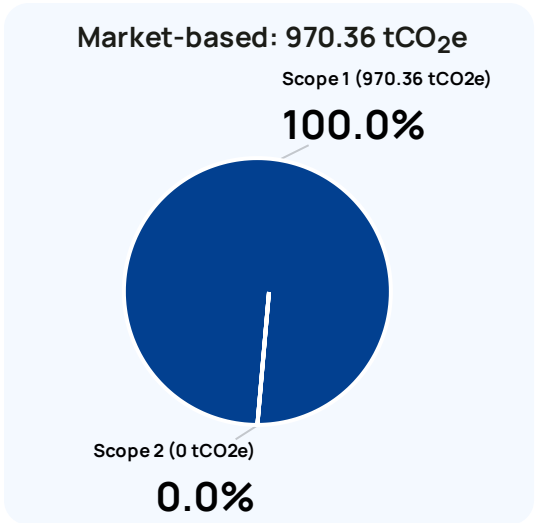


Figure 2.5: Scope distribution, Market-based



Info box:

The GHG Protocol suggests showcasing results according to both Location-based and Market-based methodologies, ensuring data transparency. This way, the relation between CO_2e emissions from electricity usage and grid factors is clearly displayed, emphasizing the need for collaborations between private and public actors in the energy market.

Relative indicators

The relative indicators show absolute emissions reported according to the market-based method attributed to relative units of three selected business metrics within Bradals Produkthandel:
1) Number of employees (FTE)
2) Revenue (mDKK)
3) Area (square meters)

The relative indicators are relevant when managing emissions according to performances or assets, and can more accurately represent emissions in spite of changes in company size and activities.

Figure 2.6 showcases scope 1 & 2 absolute emissions in relative units, while Figure 2.7 includes scope 3 emissions.

Info box: Relative indicators are useful when designing GHG reduction plans with intensity targets. In that scenario, reduction goals are set, on reducing the ratio of emissions relative to a business metric over time.

Figure 2.6: Relative indicators on CO_2e-intensity on selected business metrics, Scope 1 & 2

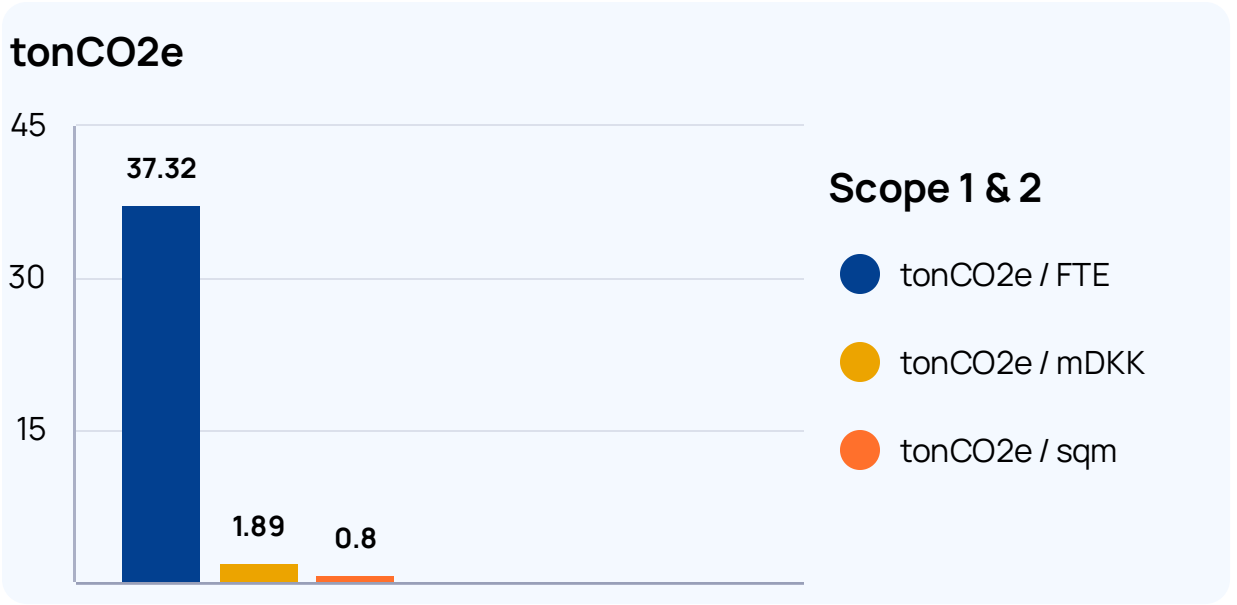
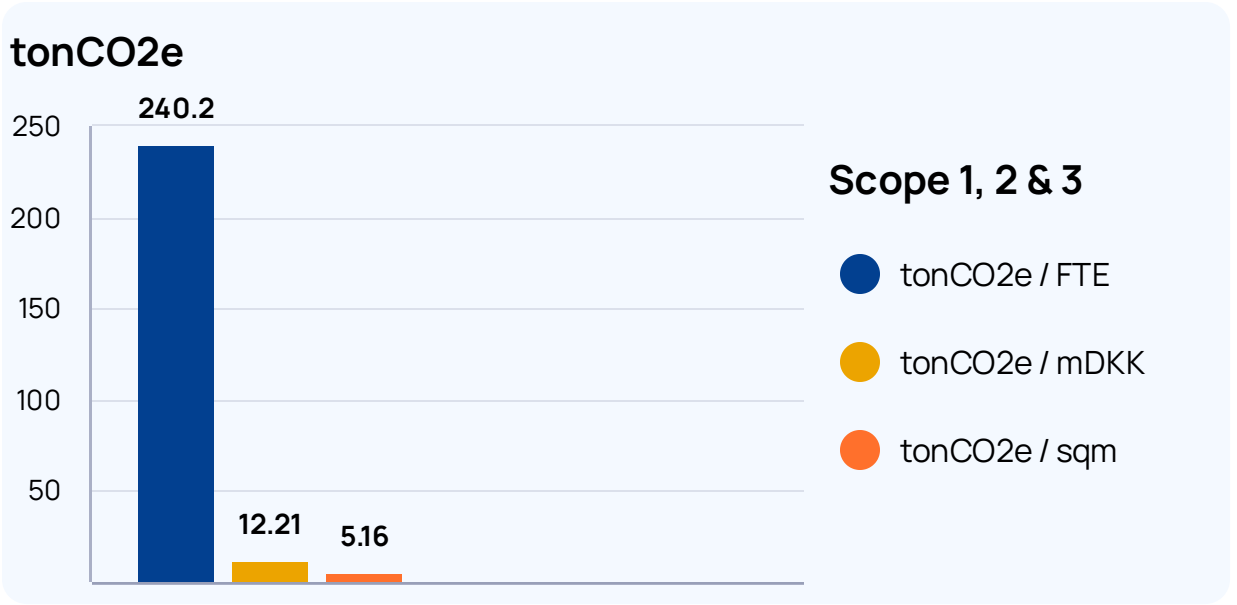


Figure 2.7: Relative indicators on CO_2e-intensity on selected business metrics, Scope 1, 2 & 3



Distribution of emissions

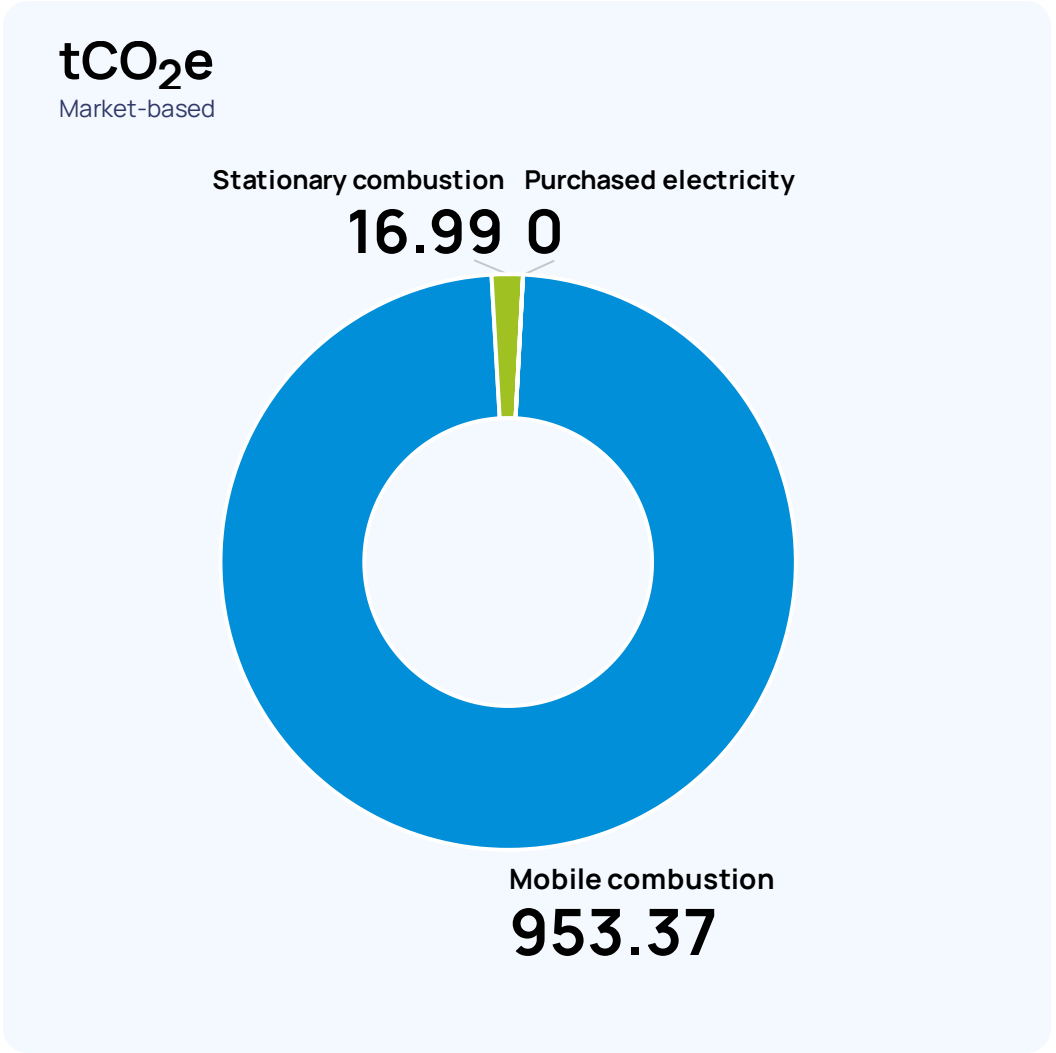
The distribution of emissions in the baseline inventory are dominated by direct emissions from the vehicle fleet operated by Bradals Produkthandel. Herein company cars, heavy-duty vehicles, and other equipment are utilised to deliver value towards the company business model.

A smaller amount of direct emissions is due to on-site generation of heat through burning natural gas.

Purchased energy in the form of electricity incurs no greenhouse gas emissions because 100% of Bradals electricity consumption in 2022 is covered by a renewable energy certificate (guarantee of origin), and reporting is according to the market-based method.

The distribution of emissions between categories in scope 1 & 2 are illustrated in figure 2.8.

Figure 2.8: Distribution of emissions in scope 1 & 2 categories



Renewables & biogenic emissions

Certificates for use of renewable electricity

The entire electricity consumption in the baseline year 2022, is covered by renewable energy certificates (e.g. Guarantees of Origin), as described in Figure 2.9 below:

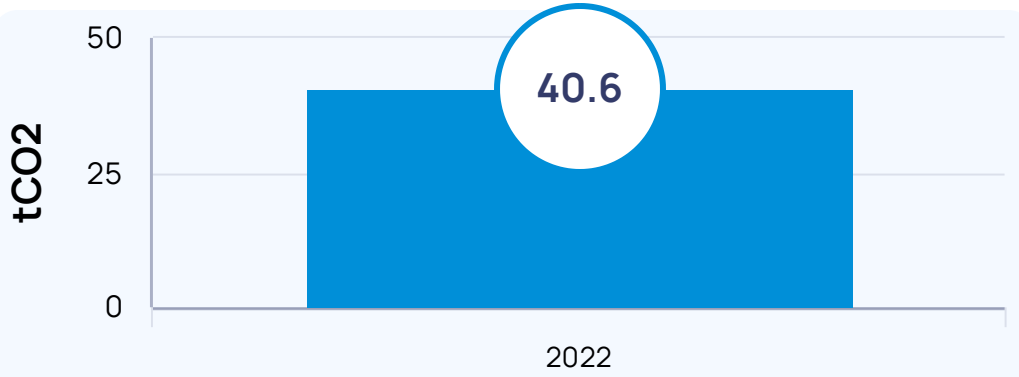
Figure 2.9: List of certificates used in the baseline inventory

Location of use	Certificate provider	Certificate requirements	Energy source	Certificate coverage
Denmark	OK a.m.b.a.	None	Wind turbines	2022: 100%

Info box: Purchased certificates stating the acquired amount of electricity from renewable sources (according to current market trade methodology) can be used in market-based calculations and are named Renewable Energy Certificates (REC) in North America and Guarantees of Origin (GO) in Europe.

Out of scope emissions

Figure 2.10: Out of scope - biogenic emissions (tons CO2)



The biogenic emissions from the combustion of fuels containing a share of biofuels are illustrated in figure 2.10 above. These emissions are categorized as 'Out of Scope' according to the GHG Protocol. The values are obtained by calculating the share of biofuel blend in petrol and diesel, under the activity 'mobile combustion', as well as the share og biogas blend in natural gas, under the activity 'stationary combustion'. Calculations are based on the product datasheet obtained from the supplier of the fuel used for owned/leased vehicle activities, and from national/international databases for natural gas. For more information on the accounting methodology, please visit the methodology section.

Danish energy sectors utilise biomass for the production of both electricity and heat. Due to a lack of data insight from energy institutions towards a split in emission factors, no 'out of scope' emissions have been reported from scope 2.

2. Results

Scope 3

ABSOLUTE TOTAL EMISSION:

5,275.01 tCO_2e

Scope 3

Baseline year - 2022

BRADALS PRODUKTHANDEL

Inventory information

Base-year information

The base year, 2022 was chosen on behalf of being a full calendar year with historical data. No scope 3 inventory recalculation is currently planned. The threshold for a base-year recalculation is set to be: **10**% difference of GHG emissions in base-year inventory. For further explanation and context, please visit the policy section.

2022

Activity data

In the process of collecting inventory data for each included activity, a log was made according to the data quality hierarchy, which can be seen in figure 3.2 in the methodology section. The data presented in this report are produced with the ambition of achieving accuracy, which is reliable for decision-making, and uncertainties have been reduced as far as possible.

All activity data in the scope 3 inventory are from primary data from the value chain of Bradals Produkthandel. Consequently, all data points logged as 'Medium' and 'Low' are from primary data. For information on data quality categorisation, see figure 3.2.

Figure 2.11: Data quality - share of scope 3 absolute emissions result

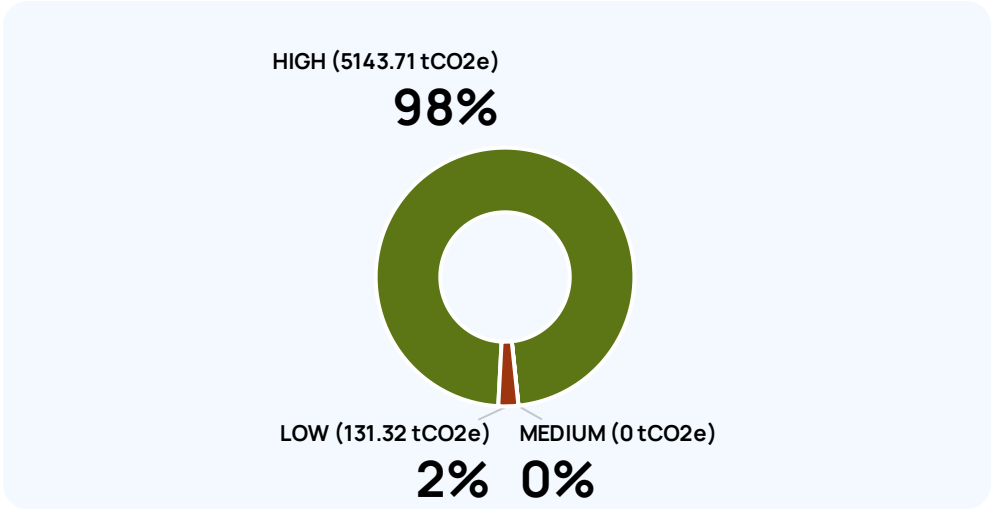
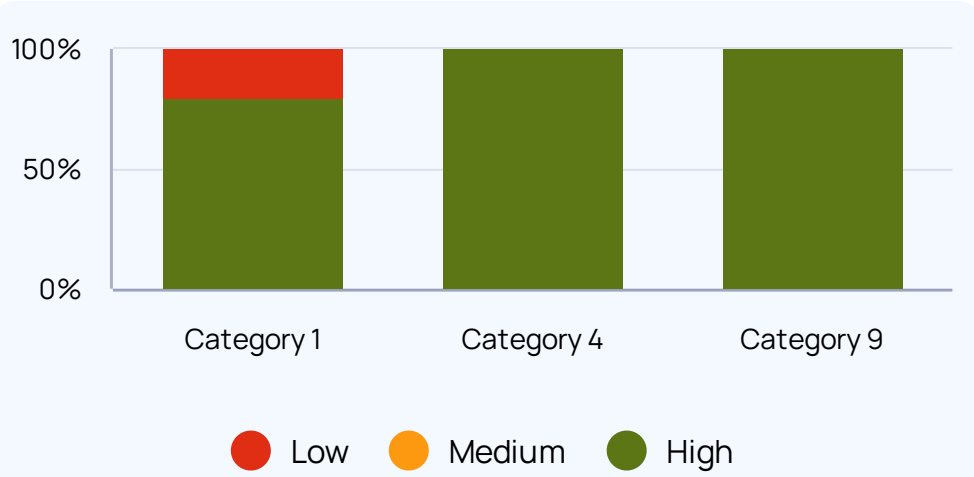


Figure 2.12: Data quality - scope 3 - share of emissions in reporting categories



Total emissions

As a result of the full CO_2e inventory calculation, the absolute emissions of all activities performed by Bradals Produkthandel in scope 3 are presented in figure 2.13 below.

For more information on inclusion of categories in the scope 3 inventory, see figure 1.6 and for the inclusion of individual greenhouse gases in the scope 3 inventory, see figure 3.6.

It was not possible to obtain any information on separate biogenic emissions in the scope 3 inventory. No exclusions and reporting as 'out of scope' emissions were made from scope 3 activities.

Figure 2.13: Total scope 3 absolute emissions per category (tons CO_2e):

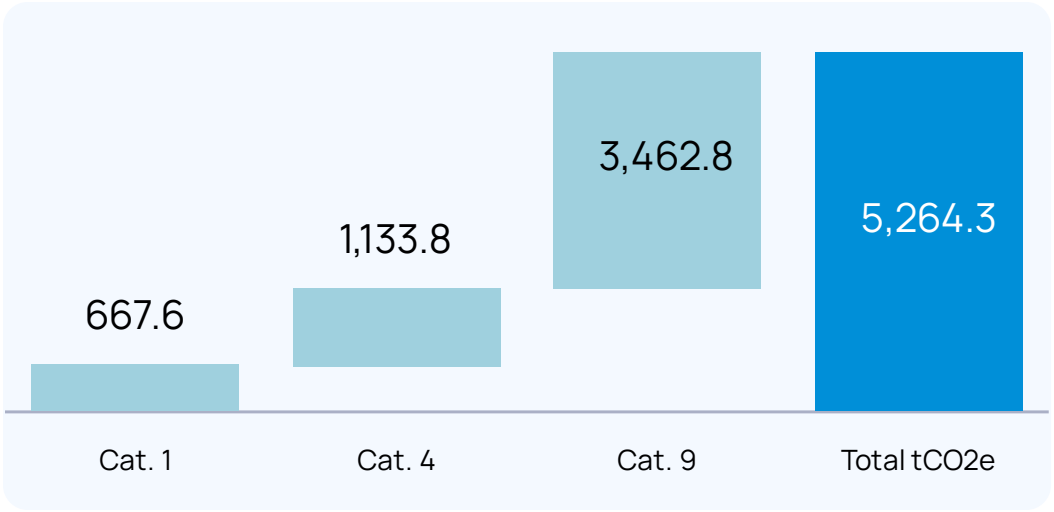
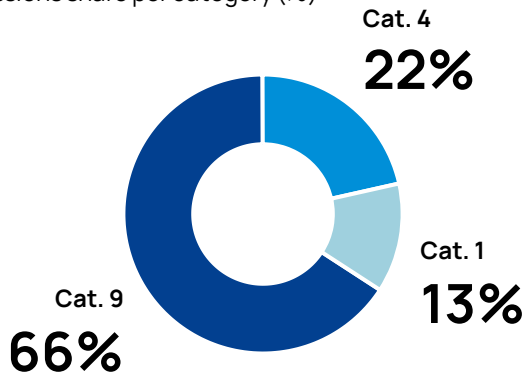


Figure 2.19: Total scope 3 emissions share per category (%):



Category 1: Purchased Goods and Services

667.60 tCO_2e

Bradals Produkthandel's Category 1 emissions are calculated using a combination of the average-data method, for goods where physical data is available, and spend-based method for the remaining goods and services, where only monetary spend data is available.

The screening revealed a total of 30 categories of goods and services Bradals Produkthandel purchased during the baseline year 2022.

Nine categories of purchased primary goods (scrap) were quantified in physical units (kg) and represent the types of scrap Bradals Produkthandel acquires for processing and further sales.

The purchased scrap consists of materials at the end of their life, therefore the scrap itself has no production-associated emissions. However, these goods incur a handling carbon cost, as a result of handling before they arrive at Bradals, at the suppliers' site.

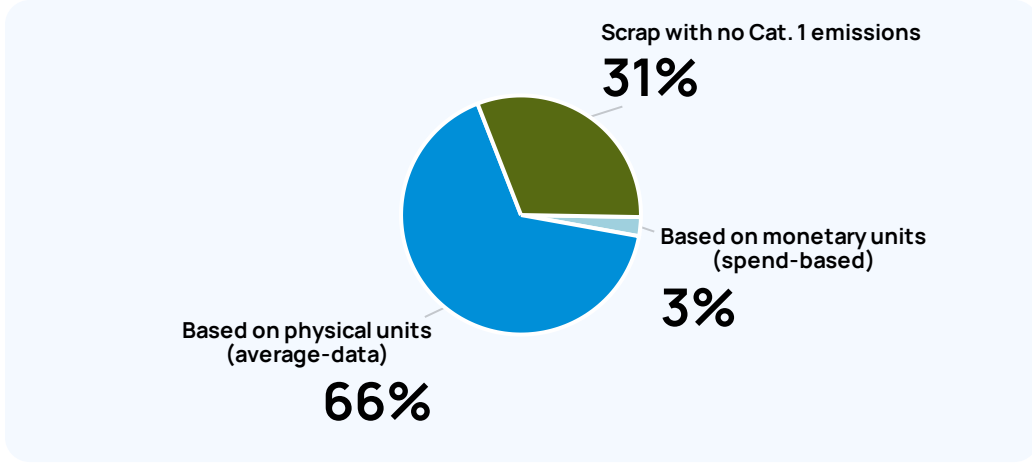
Category 1 emissions associated with the scrap were therefore calculated based on assumptions on the suppliers' handling processes, and the method is detailed in section 3.

Some suppliers don't handle scrap, therefore no cat. 1 emissions are incurred by those scrap materials, see Fig. 2.14.

Data on the remaining 21 categories were retrieved from the company's spending report, extracted from the internal systems, and cover all spending on secondary goods and services for baseline year 2022. This process ensures data completeness according to the GHG Protocol.

For more information on the emission calculation approach, see section 3.

Figure 2.14: Total spending on Goods and Services, grouped according to calculation method.



2. Results - Scope 3

Category 1 - Distribution between methods

All data used in Cat. 1 calculation is primary.

→ 4% of all spending (DKK) in 2022 accounts for 20% of all CO_2e emissions, which are calculated using the spend-based method;

→ 96% of spending (DKK)accounts for 80% of emissions and are calculated through the average-data method, with data extrapolated from Bradals own activities, to represent the supplier category with similar handling processes.

For more information on the emission calculation approach, see section 3.

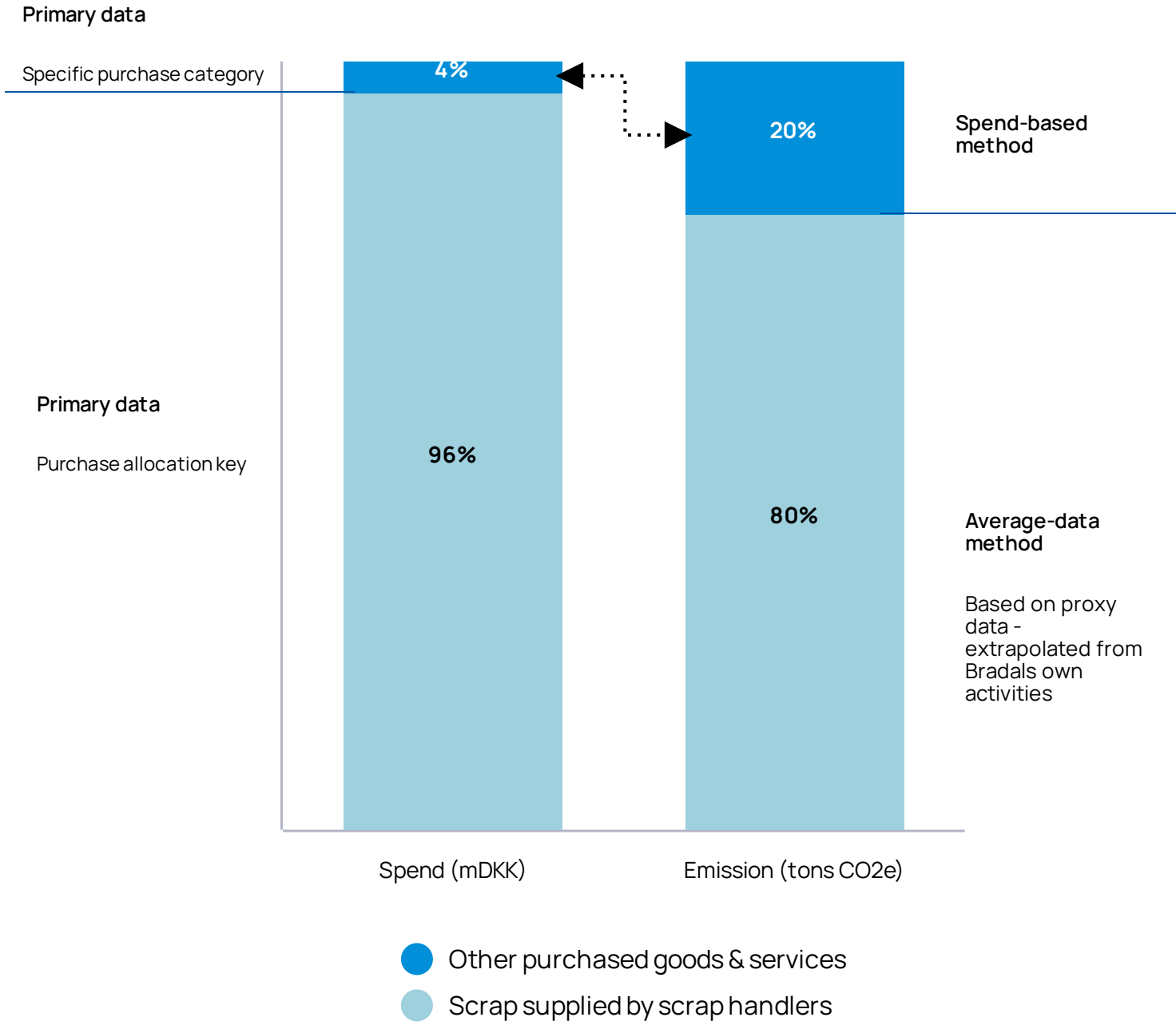


Figure 2.15 Left: Percentage split of total spend on purchased goods & services; Right: Percentage split of total emisions per calculation method.

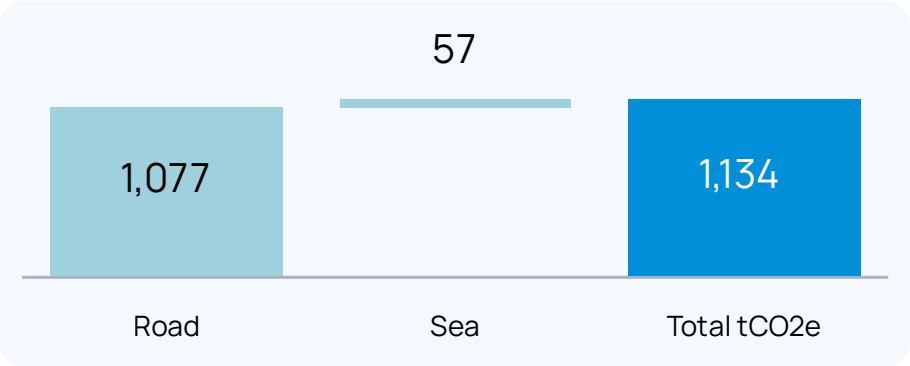
Category 4: Upstream Transportation and Distribution

Bradals Produkthandel earns revenue through purchasing, processing and freight forwarding of scrap materials, where most upstream handling fees are paid by Bradals Produkthandel.

Purchased scrap is transported to Bradals site in Silkeborg via a combination of road and sea transport. A distribution of emissions associated with each means of transport can be seen in Fig. 2.16. The calculation method is detailed in section 3. Total absolute Cat. 4 emissions are:

1,133.84 tCO_2e

Figure 2.16: Total emissions in category 4 by modes of transport.



Category 9: Downstream Transportation and Distribution

The transport of processed scrap is most often at the customers' expense and is included in the customer invoice.

Processed scrap is transported from Bradals site via a combination of road and sea transport. A distribution of emissions associated with each means of transport can be seen in Fig. 2.17. The calculation method is detailed in section 3. Total absolute Cat. 9 emissions are:

3,462.84 tCO_2e

Figure 2.17: Total emissions in category 9 by modes of transport.

3. Methodology

Baseline inventory

Data inventory

Meta data controlling

Bradals Produkthandel baseline year calculation was initiated as a part of the Klimaklar Produktionsvirksomhed programme, which entails collecting data in a Data collection sheet provided by Dansk Industri, then transferred into the calculation tool, Klimakompasset. This data collection method is inspired by the GHG Protocol's data management plan, where details on data quality and sources are included in the data collection sheet. While not all Fig. 3.1 metrics are included in the data collection, most are observed and collected in the sheet, rendering the data collection valid, accurate and relevant.

Data controlling typically involves several roles: a data reporter, a controller and a reviewer. In Bradals case, the roles were covered by an internal finance specialist and an external sustainability consultant (the second set of eyes), assuring data completeness and relevance under GHG Protocol's principles.

Meta data quality

All activity data was logged in accordance with the data quality hierachy shown in figure 3.2, and for the purpose of the baseline year reporting, consists of primary data for scopes 1, 2 and 3.

Figure 3.1: Data controlling metrics

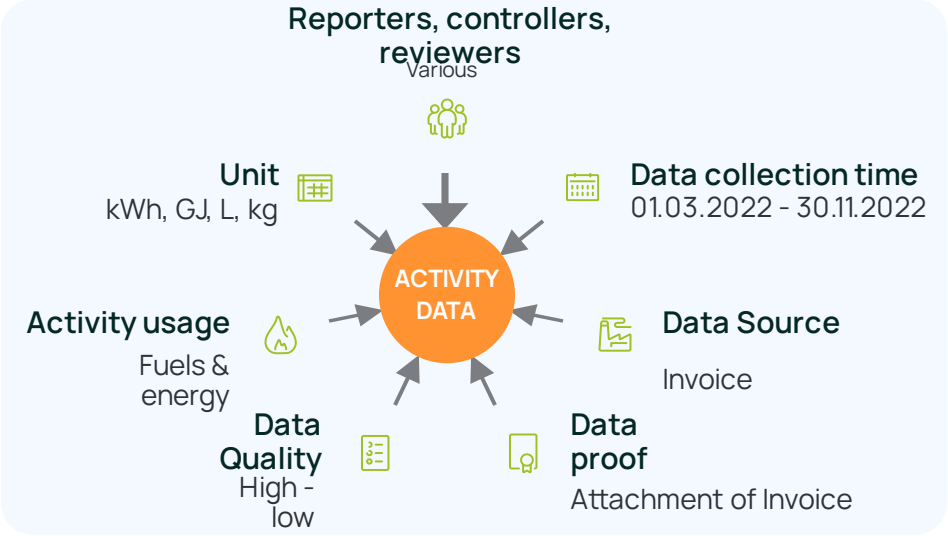


Figure 3.2: Data quality hierachy

Primary: Scope 1, 2 & 3	Secondary: Scope 1, 2 & 3
Measured Directly measured on device or read from invoice	**Measured** Directly measured on device or read from invoice
Calculated Calculated from consumption data	**Calculated** Calculated from consumption data
Estimated Based on assumptions and calculations	**Estimated** Based on assumptions and calculations
Primary: Scope 3	**Secondary: Scope 3**
Data from specific activities within the company value chain	Data that is not from specific activities within the company value chain

Greenhouse gases

GHG emissions and sources

This report account for the six greenhouse gases covered by the Kyoto Protocol and the addition of a 7th GHG included in the GHG protocol Accounting and reporting standard amendment: "required greenhouse gases in inventories", which also states the use of the newest 100 year GWP value from IPCC: Fifth assessment report, 2014 (AR5)

The accounting of GHG emissions is done in accordance with the GHG Protocol and in relation to the Kyoto Protocol, which operationalises the United Nations Framework Convention on Climate Change by committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets.

Following the requirements of the GHG Protocol, the GHG emissions should be separately accounted for. However, as the inventory depends on available data from energy suppliers and agencies, this has not been possible to a full extent. Where the inclusion of individual Greenhouse Gases have been detailed per emission factor, a log has been made for each category, see Figure 3.4, 3.5 and 3.6.

Where emission factors in tCO2e where not obtainable, the conversion of Greenhouse Gases have been done with the use of the GWP values listed in figure 3.3.

The calculation methodology of Bradals Produkthandel baseline inventory was done using a combination of manual emission factor selection and Klimakompasset, a software designed by the Danish Business Authority (Erhvervsstyrelsen). The Klimakompas emission factor database links to national and international emission factor databases and is updated accordingly every year. The emission factors were automatically attributed to the reporting company's activities.

For the calculation of scope 3 cat. 1, 4 and 9, the emission factors were selected manually, and the following conditions were observed.

Selection criteria:

- **A preferred use of reliable, internationally and nationally accepted databases for emission factors and conversion coefficients.**
- **The newest schemes are preferred, with actual rather than projected emission factors.**
- **A preferred use of the newest databases with updated emission factors.**
- **Preferred consistency in the use of the same database and not combined databases. However, the use of combined databases was pursued whenever data was not available in the primary database.**
- **A preferred use of the GWP rates from the newest IPCC assessment reports based on a 100-year timeframe.**

Emission factors

The following sources have been used for inventory emission calculations. The inclusion of GHGs are represented in figure 3.4, 3.5 and 3.6 with the reference number shown in the source column.

Scope 1

1. OK Product data sheets, 2022
2. DEFRA, 2022 Government Greenhouse Gas Conversion Factors for Company Reporting
3. *Energistyrelsen, 2021
4. *Evida, 2021

Scope 2

1. *Energinet, el-deklarationer, 2022
2. ***DEFRA, 2022 Government Greenhouse Gas Conversion Factors for Company Reporting**

Scope 3

1. *Exiobase 3.3. 16b2, 2020
2. DEFRA, 2022 Government Greenhouse Gas Conversion Factors for Company Reporting
3. *DCE, 2020
4. *DST, 2021

*databases used and managed by Klimakompasset.dk

For each scope 3 category, total emissions of GHGs (CO_2, CH4, N_2O, HFCs, PFCs, SF_6 and NF_3) are reported in metric tons of CO2 equivalents, (tCO_2e) since it was not possible to obtain emissions data at a detailed level to split the results per specific gas per category.

Figure 3.3: GWP multiplication factor of each GHG to CO_2 equivalent. HFCs and PFCs range due to variation of the gas. GWP AR 5 is sought for default GWP values chosen for the inventory year, but not exclusive when using various sources. Some sources might not indicate the GWP value version. Source: IPCC Fifth Assessment Report, 2014 (AR5).

Global warming potential (GWP) values relative to CO2 100 year time horizon						
CO_2	CH4	N_2O	HFCs	PFCs	SF_6	NF_3
1	28	265	4 - 12400	7910 - 9540	23500	16100

Figure 3.4: Greenhouse gases included in the scope 1 inventory

Scope 1 - Direct emissions		
Process / activity	Included GHGs	Source
Stationary combustion	CO_2, CH_4, N_20	2,3,4
Mobile combustion	CO_2, CH_4, N_20	1

Figure 3.5: Greenhouse gases included in the scope 2 inventory

Scope 2 - Indirect emissions		
Process / activity	Included GHGs	Source
Purchased electricity	CO_2, CH_4, N_20	1, 2

Figure 3.6: Greenhouse gases included in the scope 3 inventory

Scope 3 - Indirect emissions		
Process / activity	Included GHGs	Source
Category 1	CO_2, CH_4, N_20	1, 2
Category 4	CO_2, CH_4, N_20	2, 3
Category 9	CO_2, CH_4, N_20	2, 3

Emission calculation approach: Scope 1 & 2

Emission calculations have been executed through the climate accounting software Klimakompas. Measure points were calculated with the following formula (using conversion factors in tCO_2e):

Activity data x emission factor = tCO_2e

Approach

In this section, each emission factor is complemented with a basic methodology:

- Inclusion of greenhouse gases
- Origin or database name and version
- Time period the emission factor is valid for
- Units
- Assumptions and calculations for performing conversions.

If the emission factor is modified from the database, a methodology and results approach have to be documented.

Scope 1

Stationary combustion:

Automatically attributed in Klimakompasset, calculated from Energistatistik, 2020 (Energistyrelsen, 2021), DEFRA, 2022 and Evida, 2021

Mobile combustion:

Supplier specific emission factor, OK a.m.b.a.

Scope 2

Purchased electricity:

- *Location-based*: emission factor extracted from Energinet.dk (Gennemsnit af timedeklarationen af 1 kWh el), 2021
- *Market-based:* Residual emission factor from energinet.dk (El-deklarationen 2021)

Danish energy institutes offer emission factors accounted for by two types of methodologies: 200% and 125% method. This method refers to the allocation of emissions relative to production of energy for electricity and heat. As recommended by Energistyrelsen, the 125% method was used for electricity emissions calculation.

Emission calculation approach: Scope 3

Category 1: Purchased goods and services

The category was calculated using a combination of average-data and spend-based methods.

The average-data method was used to calculate emissions of purchased scrap materials, which consist of materials at the end of their life, therefore they incur no production-associated emissions. The scrap incurs a handling carbon cost, as a result of handling (sorting, cutting, loading) before they arrive on Bradals site (additional transport emissions covered in cat. 4); suppliers can be categorized as follows:

- A 75% - scrap handlers (similar business model to Bradals Produkthandel)
- B 20% - industrial scrap producers
- C 5% - private persons

Assumption: Suppliers in cat. A have similar scrap handling processes as Bradals, therefore the suppliers' handling emissions associated with the scrap were estimated similar as Bradals own handling emissions. This estimation is thus proxy data for the supplier's scrap emissions.

The calculation methodology of Bradals own handling and management of scrap, was done per item category. The lifecycle stages of scrap treatment were modelled starting from receiving the scrap, sorting, and cut-processing, with the final stage of sorting and loading onto trucks.

Data on sorting- and loading-equipment fuel use were extracted from Bradals Fleet Management internal system, and the hours used per item number were estimated by Bradals specialists, according to batch load.

Different time estimates are assumed for different item numbers, depending on the difficulty of sorting per scrap type, resulting in a total hours/ton conversion factor. This estimated time consumption is used in the calculation of emission data by multiplying with litres of diesel used per hour, measured by Fleet Management.

Electrical scissors are used for cutting. The total kwh consumption of the scissors has been allocated by weight to each item number providing a kwh consumption per ton of scrap metal cut.

For a detailed calculation method, please visit the Scope 3 Accounting Manual.

Scrap sourced from suppliers in cat. B have no associated handling emissions, as Bradal retrieves the materials in their own trucks.

The weight share of scrap from suppliers in cat. C is insignificant - not included.

The spend-based method was used to calculate emissions of remaining purchased goods and services.

Data on other business-related goods and services were collected from Bradals Produkthandel's accounting system (UniConta) and consist of primary data in monetary units. Monetary units were input directly into Klimakompasset, obtaining emissions results associated with the remaining purchased goods and services, that were not included in the material scrap category.

Emission calculation approach: Scope 3

Category 4: Upstream Transportation and Distribution

The category was calculated using the distance-based method.

Transported scrap includes land transport by truck and sea transport by cargo ship.

The calculation method is based on the distance the goods are transported, and the distances are extracted from krak.dk or Google Maps.

Transported weights are extracted from internal systems (purchased goods in tonnes) and multiplied with the distance to each supplier resulting in a ton.km factor.

- **Land:**
  - The emission factor used for calculating upstream transport is per ton.km freight and assumed rigid truck, above 17t, 100% loaded, with the emissions factor retrieved from DEFRA (2022).
- **Sea:**
  - The emission factor used for calculating upstream transport is per ton.km freight and assumed cargo ship bulk carrier average, with the emissions factor retrieved from DEFRA (2022).

Category 9: Downstream Transportation and Distribution

The category was calculated using the distance-based method.

The scrap sold by Bradals Produkthandel is transported by land (truck) and sea (cargo ship) via third party service suppliers to their customers, who incur the price of transport.

The calculation method is based on the distance the goods are transported, and the distances are extracted from krak.dk or Google Maps.

Transported weights are extracted from internal systems (sold goods) and multiplied with distance to each customer resulting in a ton.km factor.

- **Land:**
  - The emission factor used for calculating downstream transport is per ton.km freight and assumed rigid above 17t truck, 100% loaded, with the emissions factor retrieved from DEFRA (2022).
- **Sea:**
  - Goods are transported by truck to Fredericia and Horsens Harbours, where they are loaded onto cargo ships.
  - The emission factor used for calculating downstream transport is per ton.km freight and assumed cargo ship bulk carrier average, with the emissions factor retrieved from DEFRA (2022).

4.

Policies

Recalculation policy

If significant changes affecting emissions are identified during the preparation of future GHG inventories, the baseline year must be recalculated.

Significant changes include:

1) Structural changes in the reporting organization, such as mergers, acquisitions, divestments, outsourcing, and insourcing (not reported on in other scopes).

2) Changes in calculation methodologies, improvements in data accuracy, or discovery of significant errors.

3) Changes in the categories or activities included in the scope 3 inventory.

Figure 4.1: Thresholds for recalculation of scope 1 & 2 baseline

Thresholds for recalculation of scope 1 & 2 baseline:

- >5 % of deviation from the baseline year due to company changes that affect the comparability between the years.
- Errors in data that affect the result by more than 5% in total or 10% in each category.

Figure 4.2: Thresholds for recalculation of scope 3 baseline

Thresholds for recalculation of scope 3 baseline:

- >10 % of deviation from the baseline year due to company changes that affect the comparability between the years.
- Errors in data that affect the result by more than 10% in total or 15% in each category.
- If the cumulative effect of adding or changing scope 3 categories or activities is significant according to the two points above, Bradals Produkthandel shall include the new categories or activities in the base year inventory and backcast data for the base year based on available historical activity data (e.g., bill of materials data, spend data, product sales data, etc.).

Recalculation policies

A set of predefined methods for the accounting of scope 3 categories are made available through the GHG Protocol. As these represent different inputs and levels of data quality, each category methodology has been described with relevance to the current method and considerations for changes.

Category 1: Purchased Goods and Services

If changing from spend-based to average, hybrid - or supplier-specific method surpasses a 20% threshold for the product category (considering changes in purchased amount i.e., a relative change), a base year recalculation is triggered if the product category constitutes more than 15% of total scope 3. The base year will be updated, to the extent that suppliers can provide data for past years to make such an update possible.

The chosen emission factor databases shall be reviewed every three years, to ensure that the baseline is updated with relevant database updates, if the changes are beyond the threshold.

In case of acquisitions or divestments which change category results with more than the threshold of 15%, the base year will be updated based on available data, in the priority: 1) Quantified emissions from Cat. 1 from the acquired or divested facility activity; 2) Purchase data from such; 3) Estimated based on available data. The policy will be reviewed periodically to reflect Bradals Produkthandel's business reality.

Note: the described threshold changes only relate to changes in data quality, hereby not changes in results due to reported activity data (quantities).

Figure 4.3: Available methods for category 1 calculation. Data quality improves from bottom to top rows in the table.

Methods	Base
Product Supplier Specific	Not used for base year
Hybrid Supplier Specific	Not used for base year
Average_product	Used for the purchased scrap materials (raw materials)
Average_sector	Not used for base year
Spend-based	Used for purchased business goods and services with the exception of the scrap materials (raw materials).

Recalculation policies

Category 4: Upstream Transportation and Distribution

Category 9: Downstream Transportation and Distribution

Bradals Produkthandel is managing most freight routes conducted by third-party operators, in internal systems. This allows them to track their shipments from start to end, with weight and volume details. However, the freight information is limited, and waypoints such as specific harbours or airports is not always known. The best option for calculating emissions from freight services is therefore the Distance-based methodology, with some use of estimates and online mapping tools. If improvements in route data should improve the overall category result by more than 15%, the base year category shall be re-calculated.

In case of acquisitions or divestments which change category results with more than the threshold of 15%, the base year will be updated based on available data, in the priority: 1) Quantified emissions from Cat. 4 from the acquired or divested facility; 2) Transport data; 3) Estimated based on available data. The policy will be reviewed periodically to reflect Bradals Produkthandel's business reality.

Note: the described threshold changes only relates to changes in data quality, hereby not changes in results due to reported activity data (quantities).

Figure 4.4: Available methods for category 4 (and 9) calculation. Data quality improves from bottom to top rows in the table.

Methods	Base
Fuel-based	Not used for base year
Distance-based	The distance-based methodology were used for all transport services and modes of transport.
Spend-based	Not used for base year

Reporting

As the yearly climate accounting inventory depends on the confirmation of activity data and the update of emission factors, the reporting and publishing of results has a series of temporal considerations.

Activity data can be collected and logged throughout the year, for the specific calendar year. Due to closing activities, supplier invoicing and system updates, an inventory should not be confirmed until the end of the calendar year. Furthermore, as emission factors of various activities depend on the collection and processing of sector data from relevant agencies, and governmental- and sector-specific bodies, they are therefore typically updated every nine months, after end of the year. For this reason, it is recommended to publish inventory data with a delayed time period af approximately 12 months, see figure 4.5.

Figure 4.5: Temporal considerations for publishing results

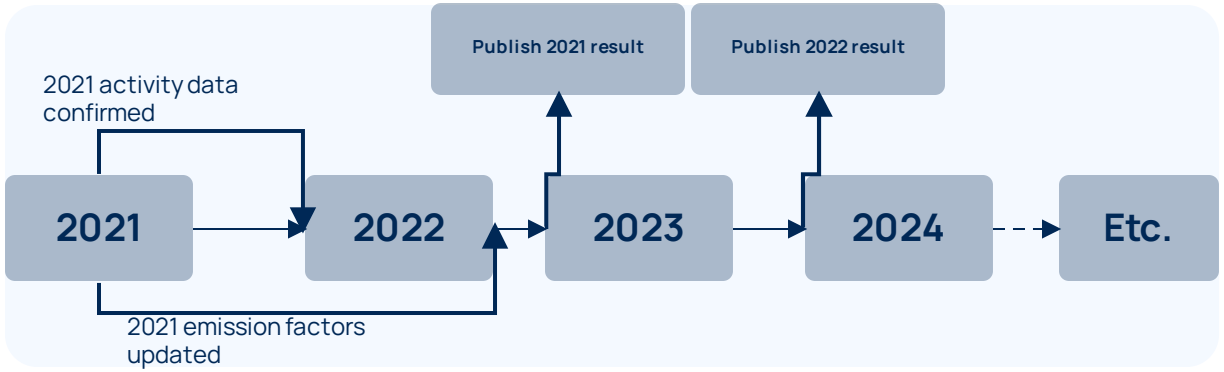


Figure 4.6: Monthly considerations for reporting

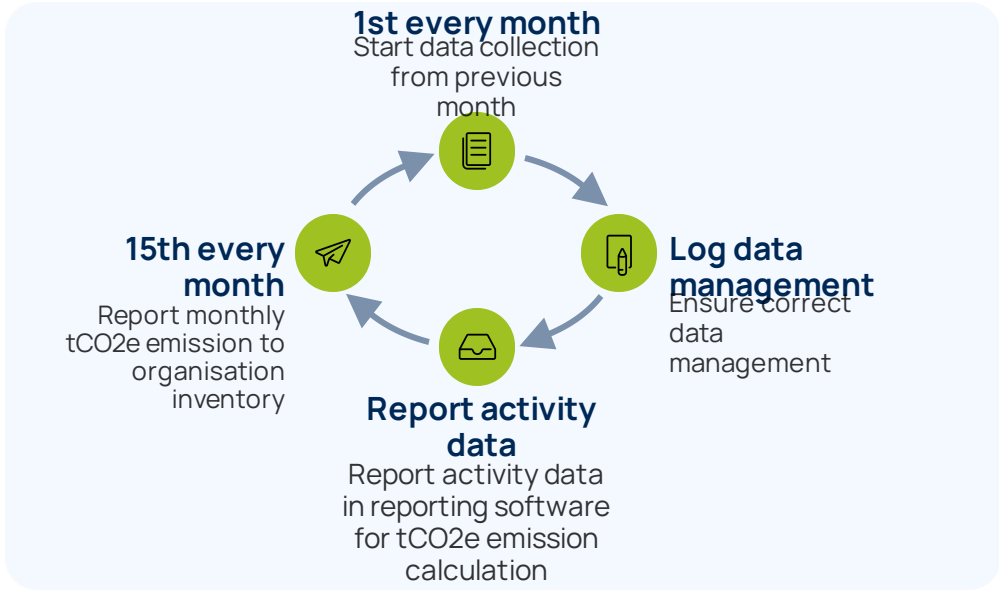
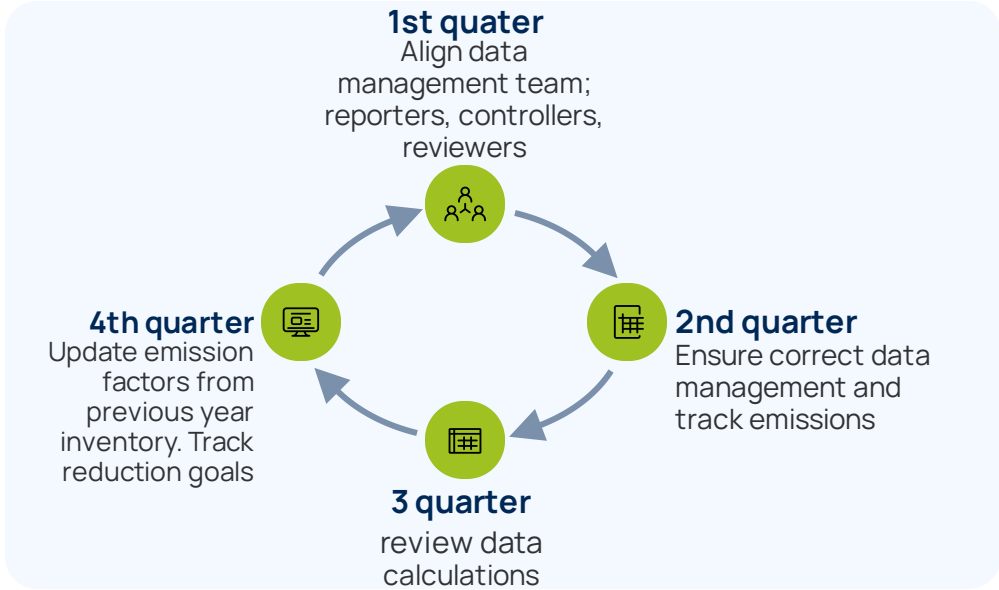


Figure 4.7: Yearly considerations for reporting



5.

Appendix

5. Appendix

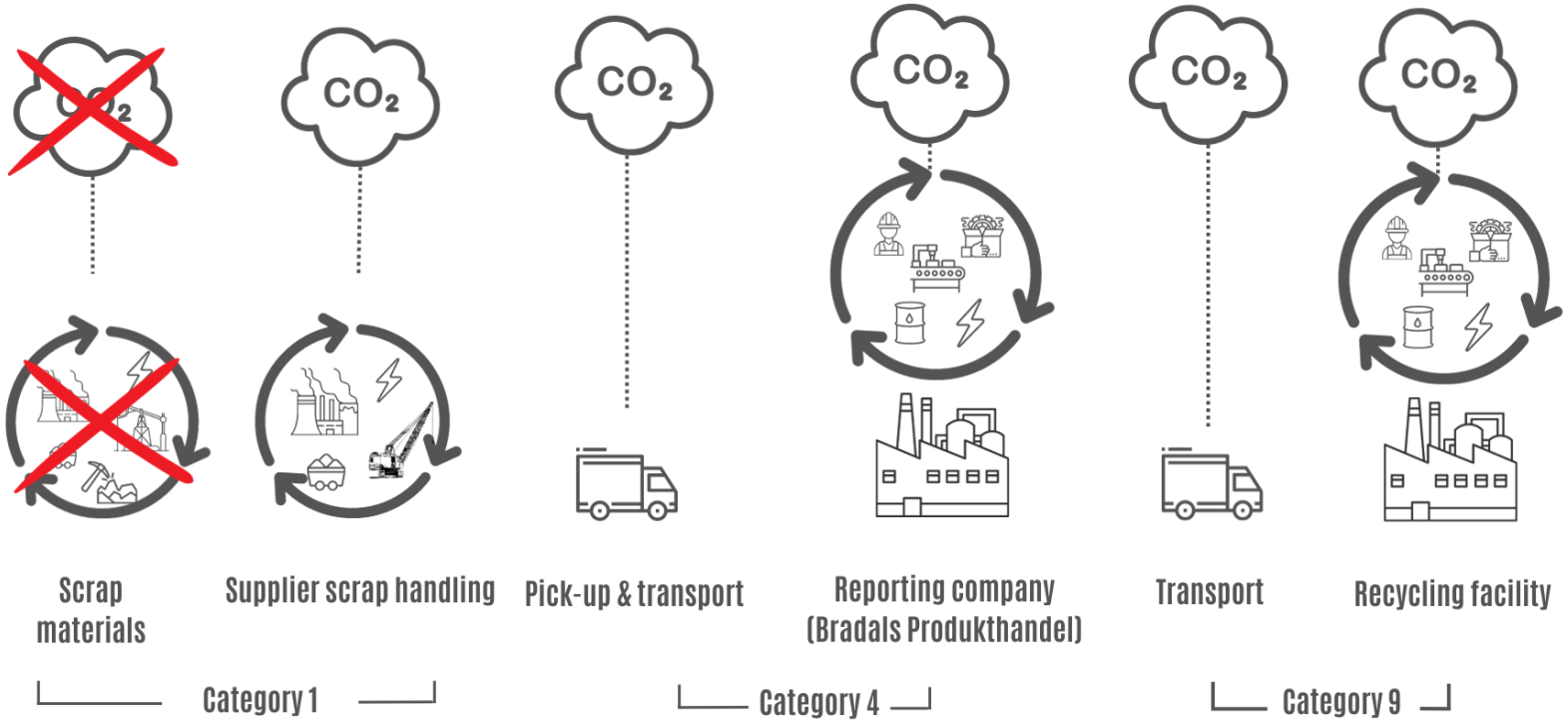
1. Scope 3 Cat. 1, 4 and 9 in scrap handling

Modelling EFs for scrap materials and inclusion of upstream and downstream transport activities is shown in the infographic to the right.

→ Cat. 1: The purchase of scrap materials incurs no production emissions for the scrap, as the materials are at the end of their life. Included in the Cat. 1 EF is the handling of the scrap before reaching the reporting company.

→ Cat. 4: Transport of scrap from suppliers to the reporting company, paid for by the reporting company.

→ Cat. 9: Transport of processed (sorted, cut) scrap from the reporting company to customers (recycling facilities), paid for by the customers.



2. Freight GHG emission calculation

Top-down approach

Vehicle specific in which gCO2e/tkm is multiplied by the freight weight and route distance.

Historical and current data of registered vehicles, driving patterns and classifications derived from market-specific statistics

Freight emission result

emissions are determined on the basis of the energy consumed and the fuel used

Bottom-up approach

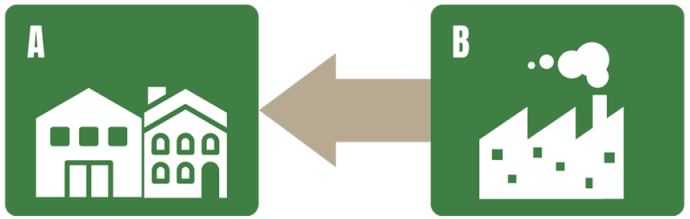
Specific consumption data; fuel type related to vehicle consumption specifications hereby factoring in changes in energy input i.e. for change of propellant or gridmix

Calculation methodology:

- **Fuel-based: using fuel calorific values to convert kgCO2e/L burned. Using the fuel emission factors is the most accurate way to calculate CO2eq, however the other methods are equally valid for reporting.**
- **Distance-based: using predefined factors of kgCO2e/t.km. These assume average load factors (if no load factor input is available) and therefore are less accurate than direct consumption, fuel based.**
- **Spend-based: allocating cost of each transport leg to a macro-economical categories for related emission data. Least accurate and based on older data, with little to none possibility to factor in market developments (before whole data sets are updated)**

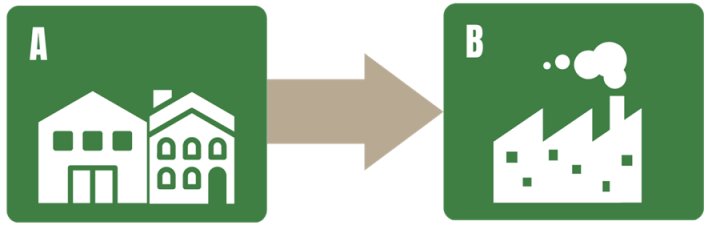
3. Context for base-year re-calculation

Re-calculating for structural changes



1/ if A acquires B (assuming B existed in A's base year):

A should include B's emissions in base year inventory and current year inventory.

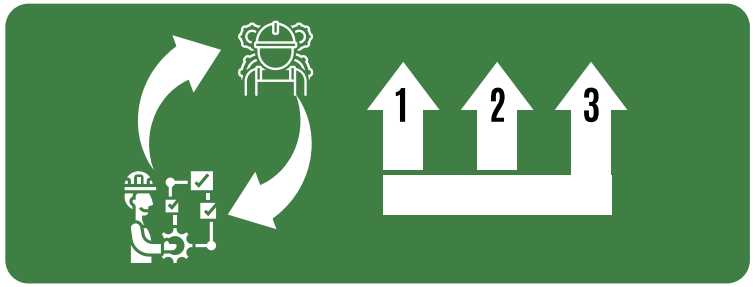


2/ if A divests of B (assuming B existed in A's base year):

A should exclude B's emissions from base year inventory and current year inventory.

4. Context for NO base-year re-calculation

Changes NOT Requiring Recalculation



1/ New activities:

Changes involving facilities that did not exist in the base year.

2/ Changes in activities:

Out-sourcing/in-sourcing of activities previously reported under a different Scope.

3/ Organic growth or decline:

Increases or decreases in production output or closures/opening of operating units that are owned by the reporting company.

5. Exclusions - example

Due to structural changes in the organisation; the divestment of x facilities were excluded from the baseline inventory. For further information on exclusions in the context of base-year re-calculation, please see appendices 3 and 4.

Detailed description of divested facilities and equipment.
Reasoning for the re-calculation or lack there-of: has the change affected the baseline year?

To manage organisational changes that might, or do affect the baseline inventory, a change log has been established, see figure 4.4.

Figure 4.3: Exclusion of facilitites

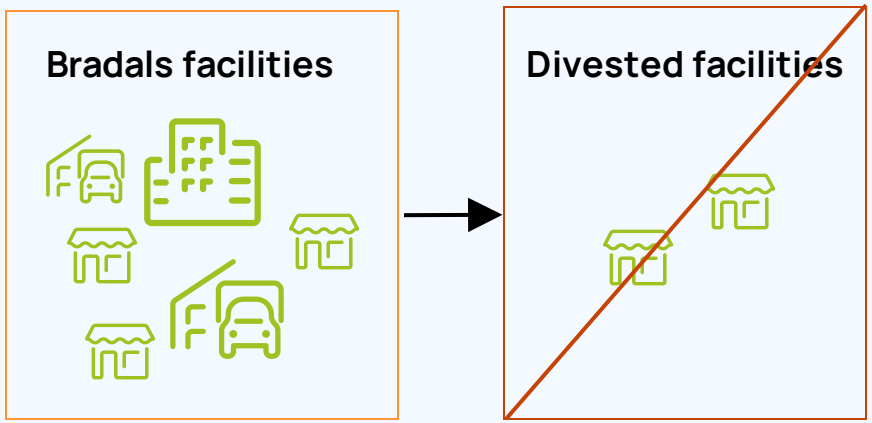


Figure 4.4: Change log for recalculation

Change	Reason	Scope	Structural change	Change in result
Exclusion	Divestment of 2 facilities: electricity and heat	Scope 1	yes	xxx tCO2e
Exclusion	Divestment of 2 facilities: associated forklifts	Scope 2	yes	xxx tCO2e
Exclusion	Divestment of 2 facilities: Category 1	Scope 3	yes	not calculated, see category results for percentage spending excluded