

INVENTORY REPORT

Scope 1 & 2

2022

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tCO₂eq

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

This report list numbers in point decimal format.
= One million two hundred thousand point seventy-five.

%

This report list percentages rounded to the nearest whole number.



GHG Inventory

Introduction

1. Introduction

Executive summary

This report presents the climate accounting baseline year result of Vestergaard Group ApS.

To assess the environmental profile of the company, Vestergaard Group ApS has conducted a full scope 1 and 2 inventory of their GHG emissions. This inventory shall serve as a reference for future initiatives on lowering the climate impact from business-related activities, in accordance with the group ESG strategy.

Therefore, the reason to carry out this corporate carbon footprint account is to obtain a solid data foundation for decision-making on operational, tactical and strategic business management level.

The GHG Protocol recommends to showcase emission results from both the location-based and market-based methodologies, which can be seen on figure 1.3 and in more detail on page 13.

Scope 1 & 2 standard

Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004). This report content is presented upon requirements from chapter 9.

Figure 1.1: Absolute results Scope 1 & 2 (market-based)

TOTAL EMISSION:
304.7 tCO_{2e}
Scope 1 & 2

Figure 1.2: Split share of Scope 1 & 2 (market-based)

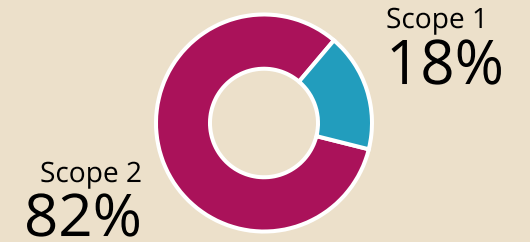
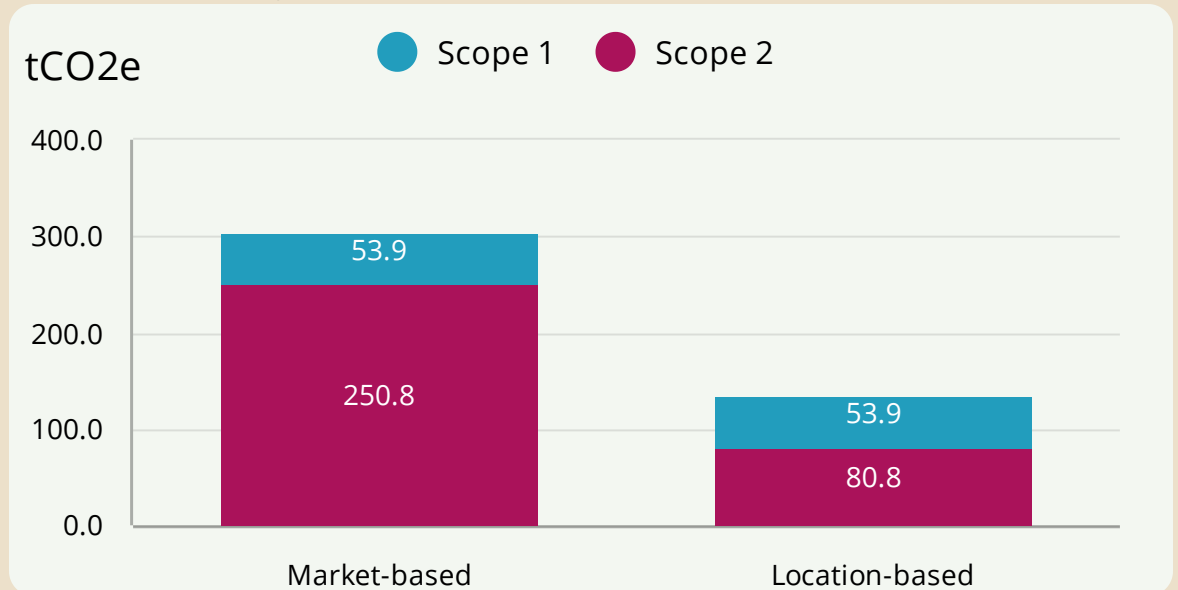


Figure 1.3: Absolute tCO_{2e} emissions of the Scope 1 & 2.



Org. boundary: **Operational Control**



Baseline year: **01.01.2022 - 31.12.2022**



Third-party verification: **No**

1. Introduction

Reporting principles

The voluntary 'Greenhouse Gas Emissions Inventory Report' hereinafter referred to as 'the GHG Report', describes the emissions and details of the inventory of GHGs for Vestergaard Group ApS, referred to as 'Vestergaard Group' from hereon. The report is published to transparently disclose to stakeholders the carbon footprint of the company's facilities, procedures and services. The report supports the purpose of measuring, monitoring, and managing the environmental performance of Vestergaard Group.

This inventory is produced and provided by SustainX with the recommended principles and criteria from the GHG Protocol Corporate Standard revised edition (2004).
Baseline year: 2022.

RELEVANCE

Company characteristics,
Stakeholder needs, Organizational
structures, Business context and
relationships

COMPLETENESS

All emissions within their chosen
inventory boundary and, If some
emissions estimated insufficiently,
document and justify these
instances

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 organisational boundaries

1.1.1 Purpose

The GHG emissions report has been performed in accordance with the GHG Protocol Corporate Accounting and Reporting Standard. It includes all required information, except those details that the standard does not consider mandatory and has not been considered relevant following the principle of relevance. This report presents the GHG inventory and calculations results, which were carried out with the input from an internal steering group representing the company and its locations worldwide, supplying the inventory with relevant activity data.

1.1.2 Organisational boundaries

- Equity share
- Financial control
- Operational control*

The organisational 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 Vestergaard Group has control over all internal operations, the company can greatly influence the reduction of emissions. The company has control over administrative costs and access to the necessary data for preparing the inventory.

1. Introduction

Vestergaard Group works within the industries of architecture, construction, and property management.

Vestergaard Group has 6 daughter companies, out of which 2 companies have Scope 1+2 activity:

- Vestergaard Huse
- Vestergaard Konstruktion

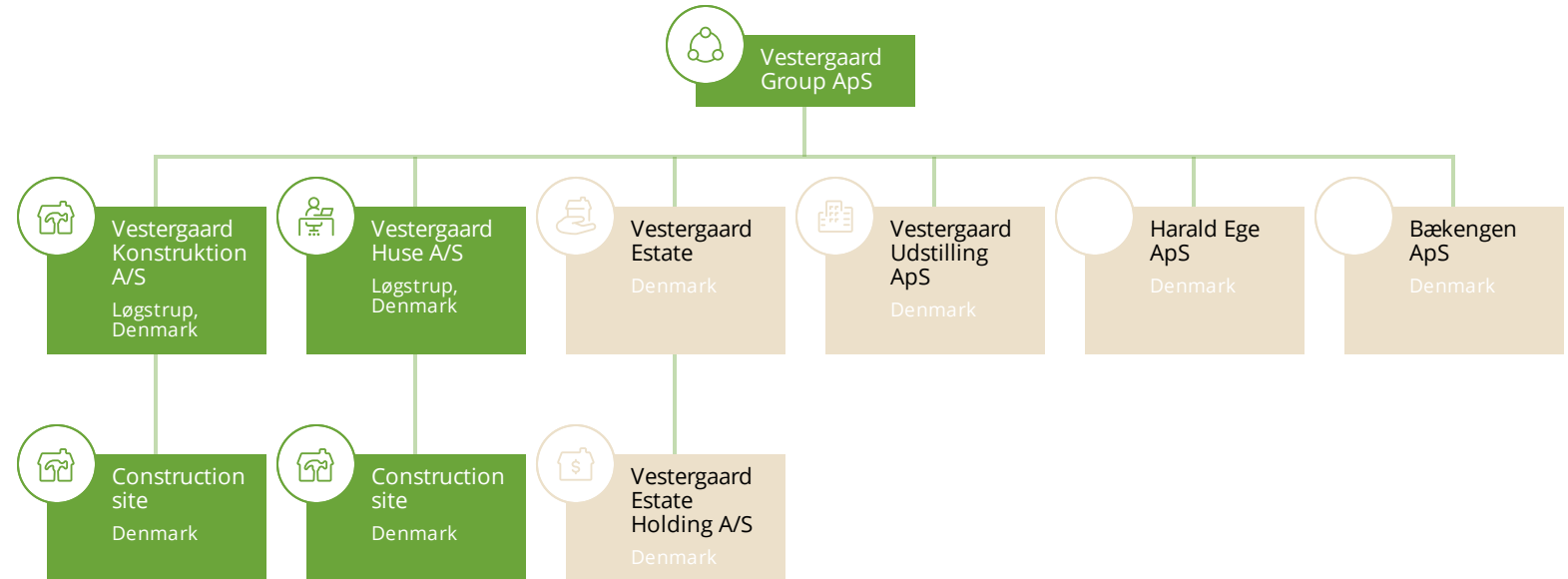
In the above two companies are managed all projects/building sites. All employees are employed in the above companies.

All two companies have 1 primary location in the city of Løgstrup, Romlundvej 51.

The baseline calculation will serve the following purposes:

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

Year of inclusion: 2022 as baseline year.



- Scope 1+2 activity
- No Scope 1+2 activity

Completeness overview of the climate accounting

Operational boundaries

Limitations and exclusions:

Vestergaard Huse and Vestergaard Konstruktion share the same office building. The electricity use of the office is accounted for under Vestergaard Huse.

The electricity use accounted for under Vestergaard Konstruktion covers the electricity used by the buildings constructed by Vestergaard Konstruktion.

The electricity used by the Konstruktion Sites is accounted for separately under Vestergaard Huse and Vestergaard Konstruktion. It covers the electricity used by the builders during the process of construction.

The electricity and heating used by Vestergaard Estate are accounted for under Vestergaard Huse, the former therefore does not present any separate activity.

All other activities are executed by external service providers, and therefore will be accounted for in Scope 3.

Any changes to the activities and characteristics of locations, facilities and number of employees that might lead to a change in emissions will be tracked with a maximum interval of 3 years.

	Area/activity	Inclusion	Data completeness	Comment
Scope 1	Transport emissions (owned vehicles)	✓	Included 100% for all relevant locations	Active locations: Vestergaard Huse, Construction Sites
	Direct emissions from stationary combustion	Not relevant		
	Fugitive emissions	Not relevant		
	Process emissions	Not relevant		
Scope 2	Purchased electricity	✓	Included 100% for all relevant locations	Active locations: Vestergaard Huse, Construction Sites
	Purchased heating	Not relevant		
	Purchased cooling	Not relevant		
Obligatory 'Out of scope emissions'	Biogenic emissions	✓	Included 100% for all relevant locations	Active locations: Vestergaard Huse, Construction Sites
	Non-Kyoto emissions	Not relevant		
Scope 3	Scope 3 screening results are available in a separate report			



Scope 1 & 2 inventory

2. Results

ABSOLUTE TOTAL EMISSION:

304.7 tCO_{2e}

(Market-based)

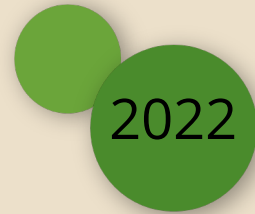
Baseline year, 2022

2. Scope 1 & 2 inventory results

Inventory information

Base-year information

The base-year, 2022, was chosen on behalf of being the latest full calendar year with historical data. The threshold for a Base-year recalculation is set to be: 5% difference of GHG emissions in base-year inventory. For further explanation and context, see section 'Recalculation policy'.



Activity data

In the process of collecting inventory data for each included activity, a log has been made according to the data quality hierarchy, which can be seen in the methodology section. The data presented in this report are produced with with the ambition of achieving accuracy, which is credible for decision making, and uncertainties have been reduced as far as is possible. The inventory result split of data quality can be seen in [figure 2.1](#).

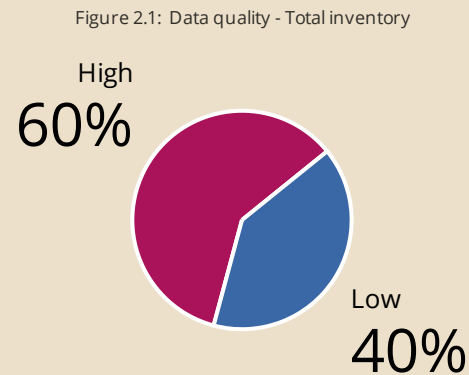


Figure 2.2: Data quality - scope 1

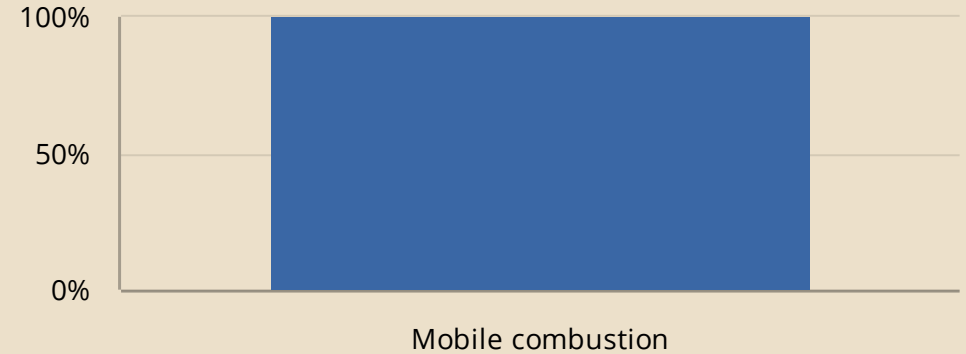


Figure 2.3: Data quality - scope 2



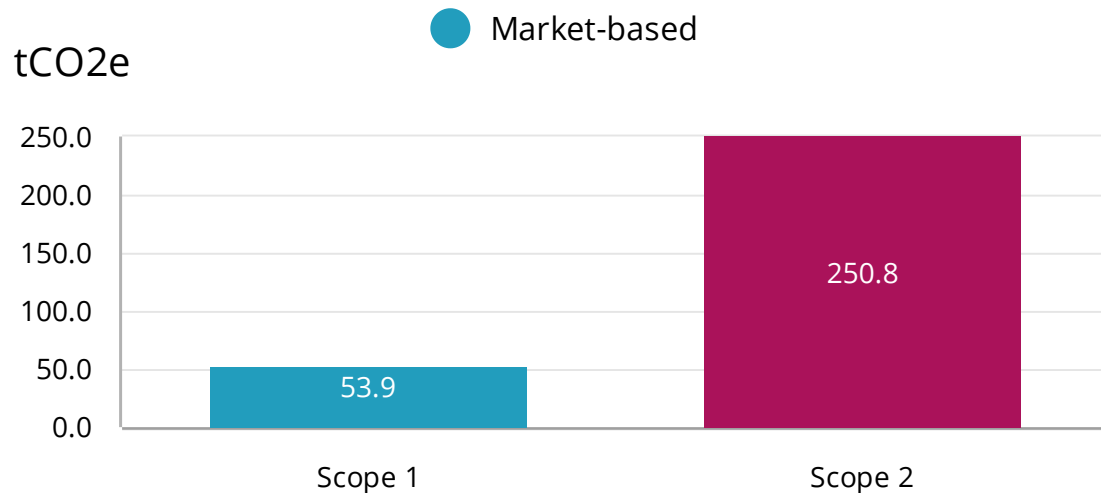
● Low ● Medium ● High

2. Scope 1 & 2 inventory results

Total emissions

As a result of the full CO_{2e} inventory calculation, the absolute emissions of all activities performed by Vestergaard Group in Scope 1 & 2 are presented in figure 2.4 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, please visit the methodology section.

Figure 2.4: 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 location- and market-based methodology.

In the baseline year 2022, Vestergaard Group is not using any certificates for the purchase of electricity (e.g. Guarantees of Origin). As the Market-based emission factor is higher due to the residual electricity mix, a larger result in tCO_{2e} emissions is produced. From 2023, Vestergaard Group is purchasing green energy certificates, which will have a significant impact on the future inventory accounting.

Figure 2.5: Scope distribution, Location-based

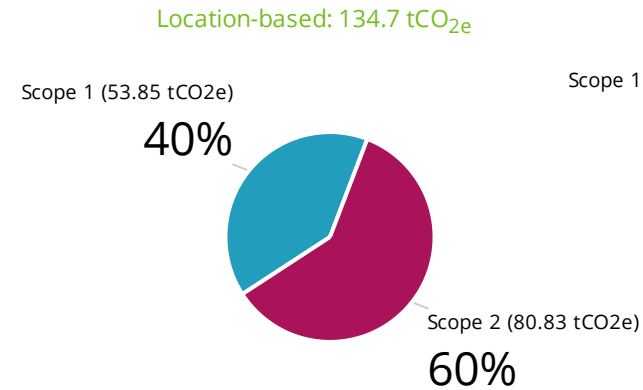
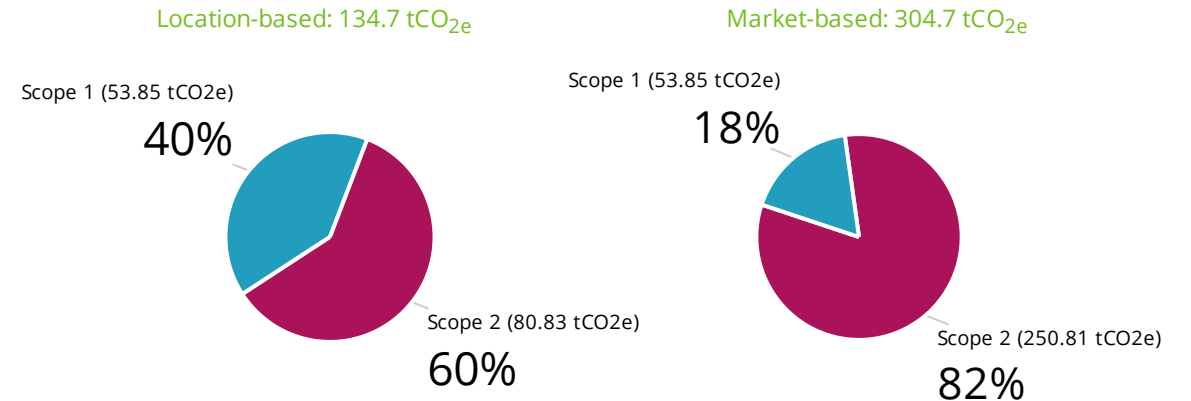


Figure 2.6: Scope distribution, Market-based



Info box:

It is suggested by the GHG Protocol to showcase results from both Location-based and Market-based methodologies, to show data transparently. Further, it showcases the relation between CO_{2e} emissions from electricity usage and grid factors, emphasizing the need for collaborations between private and public actors in the energy market. As stated in the executive summary all graphs will be based on market-based emission.

2. Scope 1 & 2 inventory result

Intensity ratios

The intensity ratios divide the absolute emissions of the Market-based method into relative units of 3 selected business metrics of Vestergaard Group:

- 1) Revenue (mDKK);
- 2) Number of employees (FTE);
- 3) Built area (m²);

The intensity ratios are useful when managing emissions according to performances or assets and can represent emissions relative to changes in company size and activities.

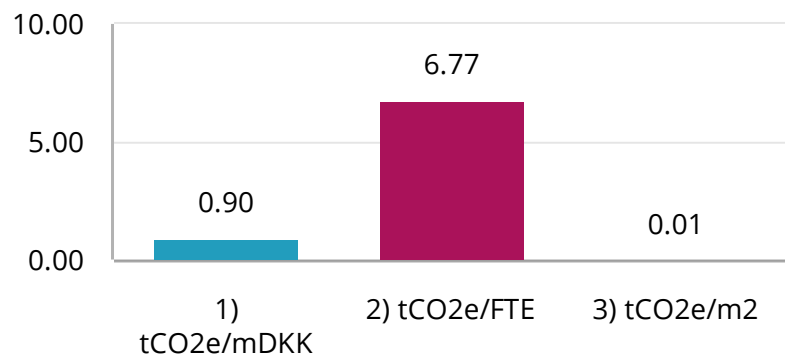


Figure 2.7: Intensity ratios on CO₂e-intensity on selected business metrics, Scope 1 & 2 (market-based)

Info box:

Relative indicators are useful when making GHG reduction plans with intensity targets. Here, the target goal is to reduce the ratio of emissions relative to a business metric over time.

Out of Scope emissions

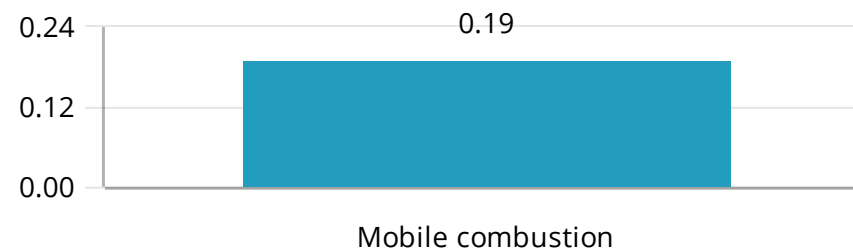


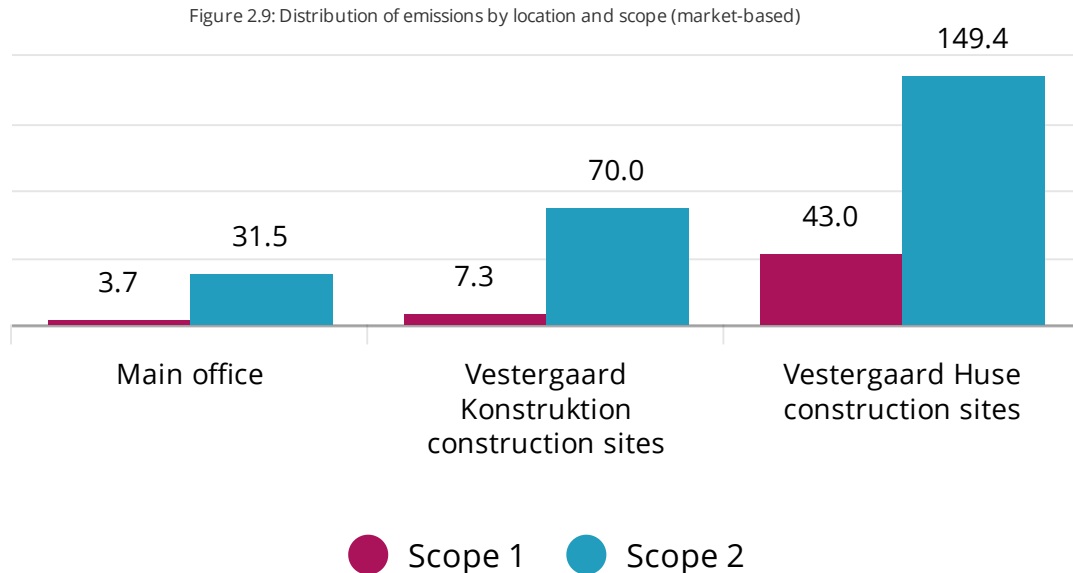
Figure 2.8: Out of Scope emissions, tCO₂e

Figure 2.8 above shows data on emissions categorized as 'Out of Scope'. The biogenic emissions from the combustion of fuels with a share of biofuels are shown here, although they are out of scope according to the GHG Protocol. The biogenic emissions are calculated from the activity 'mobile combustion' and the tCO₂e is derived from the share of biofuel blend in Diesel. Calculations are based on the database from DEFRA, 2022 UK Government.

2. Scope 1 & 2 inventory results

Distribution of emissions

The distribution of emissions per location shows that the majority of emissions stem from operations at the construction locations that are operated by the Vestergaard Huse. The operations of Vestergaard Konstruktion has second largest amount of CO₂e emissions, and the Main Office has the lowest emissions in Scope 1 and 2.



The distribution of emissions in the baseline year inventory are dominated by the in-direct energy emissions from purchase of electricity (82%) by all locations of Vestergaard Group. The majority of these emissions come from electricity consumption at the Constructing Sites.

Mobile combustion presents the only contribution to direct emissions, stemming from company-owned and leased vehicles in Denmark. The share of Mobile combustion is 18% of total emissions (Market-based)

The distribution of emissions between categories in Scope 1 & 2 are illustrated in figure 2.10.

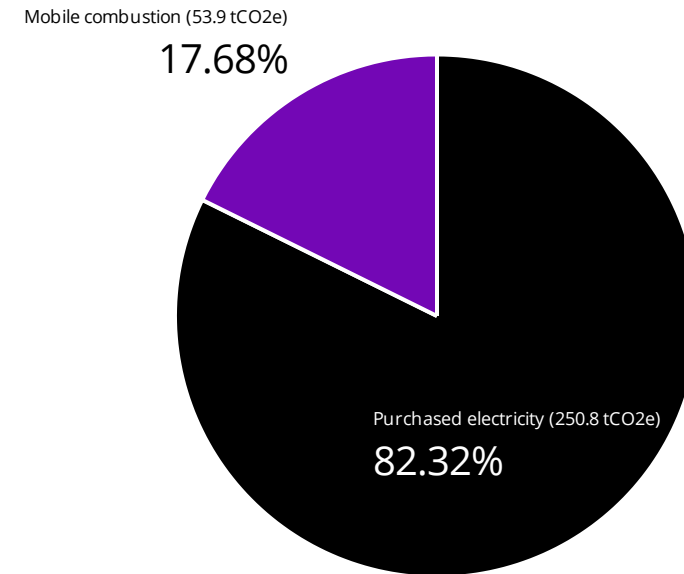


Figure 2.10: Distribution of emissions in scope 1 & 2 categories absolute and percentage (market-based)

2. Scope 1 & 2 inventory results

Energy consumption

The biggest source of emission from own operations in Vestergaard Group stems from purchased electricity. Their construction sites account for 60% of emissions from purchased electricity, as seen below in figure 2.11. It is a declared target for Vestergaard Group to work with investing in energy from renewable sources. Vestergaard Group has switched to purchase of Green certificates since the middle of 2023.

Figure 2.11: Distribution of emissions from purchased electricity, by location, Market-based results

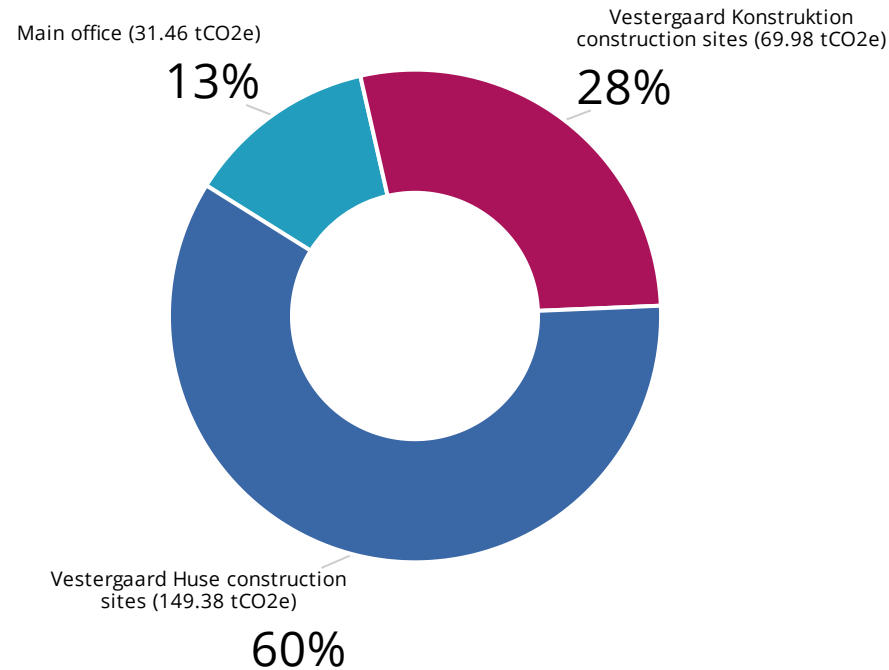


Figure 2.12: Distribution of MWh used by location

MWh	Main office	Vestergaard Konstruktion construction sites	Vestergaard Huse construction sites
Purchased electricity for facilities	74.2	165.8	353.9

Figure 2.13: Energy intensity by revenue (1M dkk), number of employees (FTE), built project size (m2)

MWh	Vestergaard Group
Purchased energy for facilities	594.0
Energy intensity, MWh per 1M dkk	1.76
Energy intensity, MWh per 1 FTE	13.2
Energy intensity, MWh per m2	0.017

*Heating in all locations is via heat pumps and therefore covered by the electricity purchased for facilities



GHG Inventory

3. Methodology & Quality

3. Methodology & quality

Data inventory

Meta data

To manage meta data, a data management plan has been produced in accordance with the recommendation from the GHG Protocol. Further, a controlling document has been utilised to log information on data qualities relative to all emission sources owned and operated according to Scope 1 & 2.

Quality check have been ensured by utilizing the function divided principle, hence the data reporter was not responsible for data quality checks. The following factors were checked in accordance to dataproof: Unit, Collection, upload of dataproof, all 7 meta datapoints.

Controlling document content:

- Country (e.g. DK)
 - City (e.g. Aarhus)
 - Site or Unit (Unique address of building, or registration number of vehicle or ID)
 - Business unit (To more easily align/track with current internal financial reporting practices)
 - Scope (Scope 1,2)
 - Aspect (e.g. Scope aspect; electricity, district heating, mobile combustion etc.)
 - Emitting activity (Which activity causes emissions, e.g. heating, electricity, forklifts)
 - Activity usage (Consumed during activity; kWh, GJ, diesel, petrol)
- Unit (Metered or measured in; kWh, L, kg, etc)

Roles & responsibilities:

- **Reporter:** Assigned reporters are conducting the actual data reporting into the reporting software. The names of all the reporters and the specific measure-points they report on, have to be documented in the controlling document.
- **Controller:** Assigned controllers are responsible for the overall process and progress. The controllers are responsible for finding reporters, upholding reporting deadlines, and that reviewing of the activity data has been executed as part of the quality assurance
- **Reviewer:** Reviewers are responsible for acting as a second set of eyes on the reported activity data

All activity data has been logged in accordance with the data quality hierarchy shown in figure 3.1.

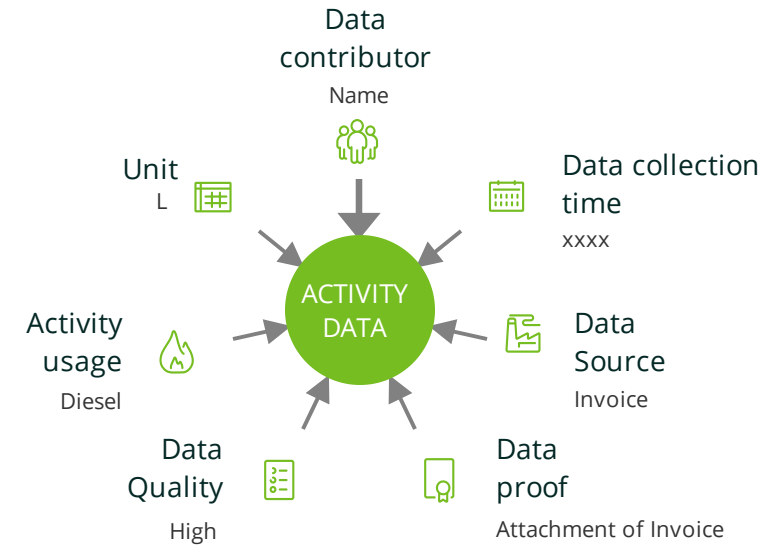


Figure 3.1: Data controlling metrics

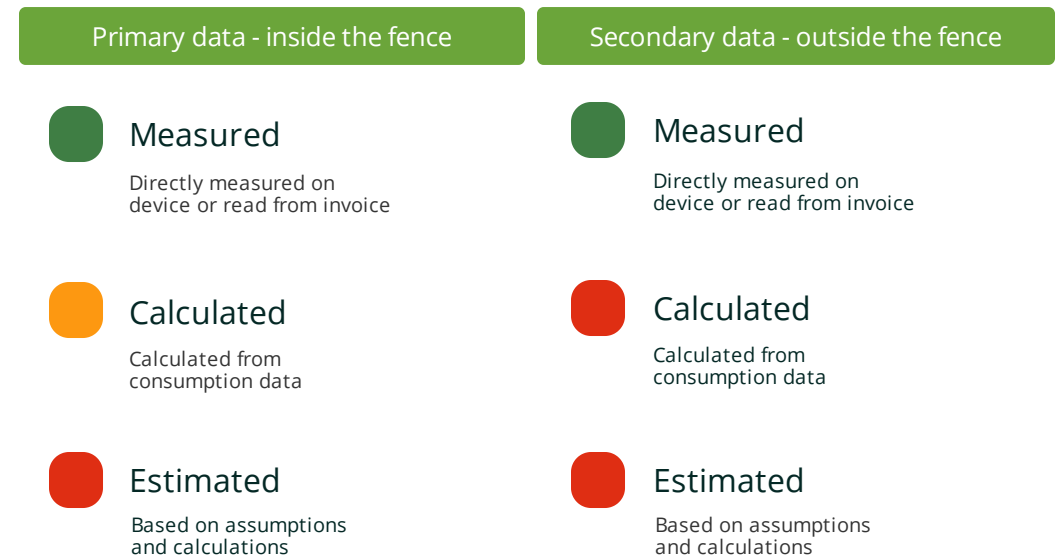


Figure 3.2: Data quality hierarchy

3. Methodology & Quality

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. It has been chosen to account for CO2 emissions in equivalents. Where emission factors in tCO2eq where not obtainable, the conversion of Greenhouse Gases have been done with the use of the GWP values listed in figure 3.2.

Global warming potential (GWP) values relative to CO2 100 year time horizon						
CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂
1	28	265	4 - 12400	7910 - 9540	23500	16100

Figure 3.3: GWP multiplication factor of each GHG to CO2 equivalent. HFCs and PFCs range due to variation of the gas. Source: IPCC Fifth Assessment Report, 2014 (AR5)

3. Methodology & quality

Emission calculation approach

Emission calculations have been executed in MS Excel. Measure points were calculated with the following formula (using conversion factors in tCO₂e): Activity data x emission factor = tCO₂e

Approach

Each emission factor must be 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.

Use of relevant emission factors

The emission factors for the calculation of the baseline inventory are selected upon best suitability and availability. Every emission factor have been assessed according to producing accurate results.

Selection criteria:

- The newest schemes are preferred, with actual rather than projected emission factors.
- A preferred use of reliable, internationally and nationally accepted databases for emission factors and conversion coefficients.
- 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.

Figure 3.4: Used emission factors and respective sources

Scope 1 - Direct emissions		
Process / activity	Included GHGs	Source
Stationary combustion	CO ₂ , CH ₄ , N ₂ O	
Mobil combustion	CO ₂ , CH ₄ , N ₂ O	DEFRA, 2022 UK Government
Fugitive emissions	HFC	
Scope 2 - In-direct emissions		
Purchased electricity	CO ₂ , CH ₄ , N ₂ O	Energinet, 2022
Purchased district heating	CO ₂ , CH ₄ , N ₂ O	
Out of Scope emissions		
Fugitive emissions	HFC	
Biogenic	CO ₂ , CH ₄ , N ₂ O	DEFRA, 2022 UK Government

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 has been used for both electricity and heat emission calculations.



GHG Inventory

Policies

4. Policies

RE-CALCULATION POLICY

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

Significant changes can be:

- 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 are greater than 10% or 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 are greater than 10% or 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, Vestergaard Group 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.).

Data management plan summary

THE APPROACH TO DATA MANAGEMENT IS TO ENSURE AS HIGH QUALITY DATA AS POSSIBLE WITHIN THE THE LIMITATION OF THE RESOURCES ALLOCATED TO THE PROJECT. THIS HAS BEEN SUCCESSFUL AND A HIGH SHARE OF THE DATA IS OF A HIGH QUALITY. THIS APPROACH WAS DONE WITH THE AMBITION TO ENSURE REPLICABILITY TO ENSURE THE SAME DATA SOURCE WILL BE USED IN THE FORTHCOMING REPORTINGS OF VESTERGAARD GROUP GHG INVENTORY.

 Data storage: Excel stored by Vestergaard Huse

 Method: Any changes in change log

 Reduction strategy owner: Louise Kristine Johansen

 Tool: Excel

 Emission factor updates: Annually

Planned data improvement

- ➡ 2-step data quality check
- ➡ Improvement of data quality
- ➡ Improvement of data collection annual cycle

Applied key principles



- ➡ Dataproofs
- ➡ Quality tag on all data
- ➡ Quality training of all reporters