

A thin yellow oval graphic that encircles the 'GHG' text.

GHG

Report

Njie Foods AB

Financial year 2023

In collaboration with

ATMOZ

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Introduction

This carbon accounting report describes Njie Foods' climate impact during the year 2023 and has been made in collaboration with Atmoz. Njie Foods was founded in 2008 and develops, produces and distributes healthy lifestyle drinks and foods in the Nordic markets. In 2023, the company had 10 employees (FTE) and a revenue of 100 MSEK.

Method

GHG Protocol

Atmoz calculations and reporting follows the guidelines of the Greenhouse Gas (GHG) Protocol. The GHG Protocol is based on the following principles:

- Relevance: Reporting should reflect the company's or organization's emissions in an adequate manner so that it can support decision making for users both internally and externally.
- Completeness: Reporting should cover all emissions within the specified system boundary. Any exceptions should be described and explained.
- Consistency: The method of calculation should be consistent so that comparisons can be made over time. Changes in data, system boundaries, methods or similar, should be documented.
- Transparency: All activity data, methods, sources and assumptions should be documented.
- Accuracy: The calculated emissions should be as close as possible to the actual emissions.

Scope

The GHG protocol divides greenhouse gas emissions into three so-called scopes, namely:

Scope 1, which includes direct emissions. These are emissions that the company has direct control over, such as emissions from company vehicles.

Scope 2, which includes indirect emissions from purchased energy, such as electricity and district heating.

Scope 3, which includes other indirect emissions. This includes emissions from the value chain, such as production of goods, logistics, air travel, use of sold products etc.

In cases where activities within scope 1 and 2 have a climate impact that arises previously in the life cycle, the climate impact falls within scope 3. Examples of such cases are production and transport of the fuels combusted in company cars or production and maintenance of power plants that supply energy.



Consolidation Approach

The GHG Protocol allows two different consolidation approaches; equity share and control approach. The chosen method affects, to a certain extent, in which the scope the climate impact is reported, but above all it decides which emissions should be included for companies owned by the company. Under the control approach, a company accounts for 100 percent of the GHG emissions from operations over which it has control. When using the control approach to consolidate GHG emissions, companies shall choose between either the operational control or financial control approach. The consolidation approach used for Njie Foods' climate reporting is operational control, which means that the inclusion of emissions attributed to the reporting company is based on its operative control of the respective business activities.

Scope 2 Methods

According to the GHG Protocol, greenhouse gas emissions from electricity must be reported in two ways in scope 2.

Location-based method, where greenhouse gas emissions are calculated based on an average value for the grid's electricity in the region / country.

Market-based method, where the climate impact is calculated based on electricity from a specific electricity agreement with guarantees of origin that has been actively purchased by the company. If the company doesn't have an agreement for a specific origin of electricity, the residual mix is used in the calculation. The residual mix is the electricity that is left when the sold guarantees of origin are removed. The Nordic residual mix is used for the Nordic countries, because of the common energy market. For other countries, the residual mix for the specific country is used.

Base Year

For the business's long-term climate strategy, a base year can be set against which the current accounting year is compared. Njie Foods has selected year 2023 as their base year.

According to the GHG Protocol, the base year needs to be recounted if certain types of changes are made within the scopes or method of calculation and the change is regarded as significant. As default, Atmoz has a threshold for recalculating the base year if the result shows a change equal to or greater than 5 % of the total emissions.

Recounting takes place if:

- Significant change in the organization's structure (e.g. acquisition/disinvestment of companies, in/outsource changes)
- Significant change in calculation methodology (e.g. improved emission factors, improved activity data)
- Expansion of system boundaries that provide significant change
- Detection of significant errors or minor errors that together are significant

Recalculation of the base year does not occur due to organic growth.



Activity Data and Emission Factors

The activity data for 2023 used in the climate calculation are stated by Njie Foods. Atmoz uses emission factors to transform the activity data to climate impact.

The used emission factors are of the unit CO₂ equivalents (CO₂e), which corresponds to the Global Warming Potential (GWP) of carbon dioxide over a 100-year perspective and includes the seven greenhouse gases covered by the Kyoto Protocol: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃¹. GWP values have been applied, where possible, according to the IPCC Fifth Assessment Report, 2014 (AR5). Refrigerants may in some cases contain substances that have a high climate impact but are not part of the Kyoto Protocol, if so, these are reported separately in Appendix 2.

According to the GHG Protocol, the seven greenhouse gases listed above shall be calculated and reported both separately and together as CO₂e. Currently, Atmoz only reports the gases together, as the available emission factors from authorities and institutes etc. only are reported as CO₂e.

Atmoz includes all life-cycle emissions from electricity that are not included in scope 1 or 2 in scope 3, category 3 Fuel- and energy-related activities.

Emission factors used for air travel take emissions of particles, NO_x and water vapor that occur at high altitude, the so-called "high altitude effect", into account. The calculation factor applied by Atmoz to take high-altitude effects during air travel into account is 1.7. The figure 1.7 has been developed by researchers Lee et al.² and is stated by, among others, DEFRA.

Assumptions and Updates

In some calculations, the reported data has been complemented with the necessary assumptions and average values. For instance, Employee Commuting has been devised from the number of full time employees and the statistics of employee commutes in Sweden.³

Future efforts will focus on improving the quality and granularity of Scope 3 data, removing the need for such assumptions.

¹ CO₂: Carbon dioxide, CH₄: Methan, N₂O: Nitrous oxide, HFC: Fluorinated hydrocarbons, PFC: Perfluorocarbons, SF₆: Sulfur hexafluoride and NF₃: Nitrogen trifluoride.

² Lee et al. 2021 "The contribution of global aviation to anthropogenic climate forcing for 2000 to 2018"

³Transport Analysis 2023. the Swedish National Travel Survey



System Boundaries

Njie Foods' system boundaries are reported below.

Table 1. System boundaries for the climate audit.

	Extent	Comment
Scope 1		
Refrigerants	Not relevant	
Vehicles	Included	
Stationary combustion	Not relevant	
Scope 2		
Electricity	Included	
District heating	Included	
District cooling	Not relevant	
Scope 3		
<i>Upstream Categories</i>		
1: Purchased goods	Included	
1: Purchased services	Included	
2: Capital goods	Included	
3: Fuel- and energy-related activities (not included in scope 1 or 2)	Included	
4: Upstream transportation and distribution	Included	
5: Waste generated in operations	Excluded	
6: Business travel	Included	
7: Employee commuting	Included	
8: Upstream leased assets	Not relevant	
<i>Downstream Categories</i>		
9: Downstream transportation and distribution	Excluded	
10: Processing of sold products	Not relevant	
11: Use of sold products	Not relevant	
12: End-of-life treatment of sold products	Excluded	
13: Downstream leased assets	Not relevant	
14: Franchisers	Not relevant	
15: Investments	Not relevant	

Direct biogenic carbon dioxide emissions from combustion of biomass/biofuels are outside Njie Foods' system boundaries and are not included in the GHG inventory, in accordance with the GHG Protocol. These emissions are not included because biomass absorb as much carbon dioxide during their growth as they emit when they are incinerated.



Climate Impact

Njie Foods' operations during 2023 resulted in greenhouse gas emissions of 11,001 tonnes CO₂e, presented in Figure 1 and Table 2 (with market-based method, see Table 3 for location-based results). The biggest climate impact is within Scope 3. The three largest categories are purchased goods and services, accounting for 97% followed by upstream transport and distribution accounting for 2% and employee commuting corresponding to 0% of the calculated climate impact.

Climate impact per scope

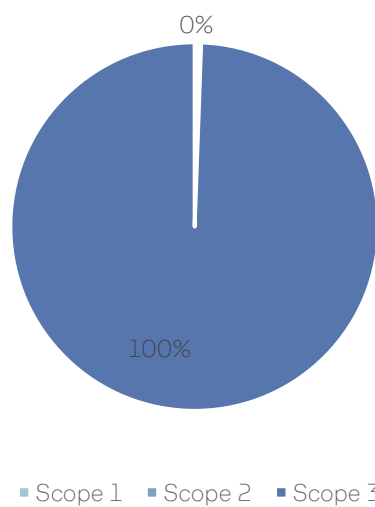


Figure 1. Climate impact per scope year 2023 with market-based method.



Table 2. Climate impact (tonnes CO₂e) per scope during 2023 with the scope 2 marked-based method.

Climate impact (tonnes CO ₂ e)	2023	% of total 2023
Scope 1	30.0	0.3%
Hybrid vehicles	16.9	0.2%
Vehicles	13.1	0.1%
Scope 2	32.3	0.3%
District heating	0.4	0.0%
Electric vehicles	0.3	0.0%
Electricity	26.2	0.2%
Hybrid vehicles	5.3	0.0%
Scope 3	10 938.6	99.4%
Business travel	12.3	0.1%
Capital goods	6.8	0.1%
Employee commuting	49.3	0.4%
Fuel and energy-related activities	7.0	0.1%
Purchased goods and services	10 647.3	96.8%
Upstream transport and distribution	216.0	2.0%
Total	11 000.9	100.0%

Table 3 shows the results with the location-based method for scope 2.

Table 3. Total climate impact (tonnes CO₂e) with the scope 2 location-based method.

Climate impact (tonnes CO ₂ e)	2023	% of total 2023
Scope 1	30.0	0.3%
Hybrid vehicles	16.9	0.2%
Vehicles	13.1	0.1%
Scope 2	9.4	0.1%
District heating	0.4	0.0%
Electric vehicles	2.0	0.0%
Electricity	0.9	0.0%
Hybrid vehicles	6.2	0.1%
Scope 3	10 946.9	99.6%
Business travel	12.3	0.1%
Capital goods	6.8	0.1%
Employee commuting	49.3	0.4%
Fuel and energy-related activities	15.3	0.1%
Purchased goods and services	10 647.3	96.9%
Upstream transport and distribution	216.0	2.0%
Total	10 986.3	100.0%



According to the Paris Agreement, global warming must not exceed 1.5 °C. To be in line with the Paris Agreement, according to the Carbon Law³, companies need to halve their emissions every decade from 2020 onwards, preferably faster. This means an annual reduction rate of at least 7% of total emissions (scope 1, 2 and all of scope 3).

To know what this corresponds to in tonnes CO₂e, Njie Foods needs to expand its system boundaries to cover all scope 3 GHG emissions. Based on existing inventory, 7% would mean a reduction of 770 tonnes by next year, which Atmoz recommends the company to strive for as a minimum.

KPIs

Table 4. KPIs for the climate impact for 2023 with the market-based method.

KPI	2023	Unit
Climate impact per employee	1 100.09	t CO ₂ e / FTE
Climate impact per revenue	110.01	t CO ₂ e / MEUR

³ Rockström et al. *A roadmap to decarbonization* 2017



Scope 1

The climate impact within scope 1 stands for 30 tonnes CO₂e corresponding to 0,2% of the calculated climate impact. Njie Foods' scope 1 consists of combustion of fuel in fossil and hybrid vehicles.

Climate impact from scope 1

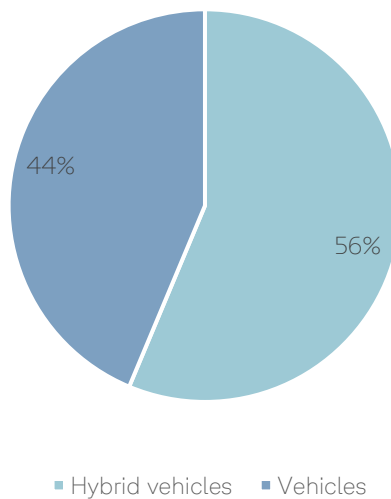


Figure 2. Climate impact in scope 1.

Table 5. Climate impact (tonne CO₂e) in scope 1.

Climate impact (tonnes CO ₂ e)	2023	% of total 2023
Hybrid vehicles	16.9	56.3%
Vehicles	13.1	43.7%
Total	30.0	100.0%



Scope 2

Njie Foods' climate impact from scope 2 comes from the use of electric vehicles as well as electricity use and heating and cooling in the company office in Mölndal. The climate impact from scope 2 for 2023 accounts for 37,5 tonnes CO₂e with the market-based method, corresponding to 0,3% of Njie Foods' total climate impact. See Figure 3 below for the climate impact for scope 2 during 2023.

Climate impact from scope 2

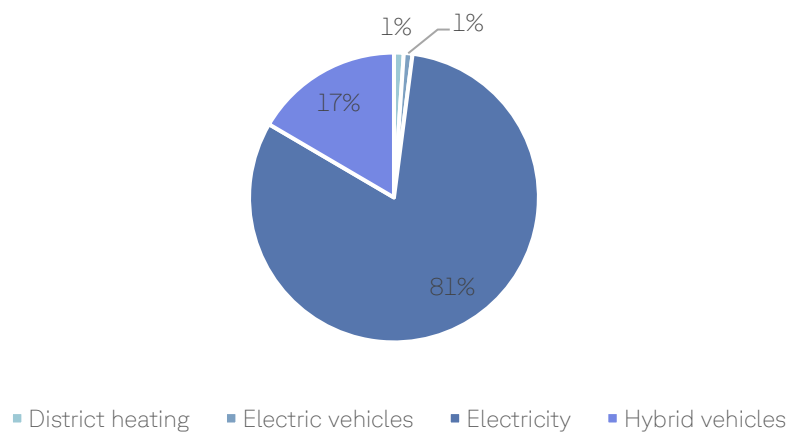


Figure 3. Climate impact from scope 2 2023 with market-based method.

The climate impact for 2023 with market-based electricity is presented in Table 6 and location-based electricity in Table 7.

In the location-based method the country/region's average climate impact for electricity is used. The market-based method takes renewable energy certificates into account.

Table 6. Scope 2 climate impact (tonnes CO₂e) for 2023 calculated with market-based method.

Climate impact (tonnes CO ₂ e)	2023	% of total 2023
District heating	0.4	1.1%
Electric vehicles	0.3	1.0%
Electricity	26.2	81.4%
Hybrid vehicles	5.3	16.6%
Total	32.3	100.0%



Table 7. Scope 2 climate impact (tonnes CO₂e) for 2021 calculated with location-based method.

Climate impact (tonnes CO ₂ e)	2023	% of total 2023
District heating	0.4	3.7%
Electric vehicles	2.0	20.9%
Electricity	0.9	9.3%
Hybrid vehicles	6.2	66.1%
Total	9.4	100.0%

Table 8. Energy consumption (kWh).

Energy (kWh)	2023	% of total 2023
District heating	23 618	28,3%
Electricity	59 861	71,7%
Total	83 479	100,0%

KPIs, Scope 2

Table 9. KPIs for scope 2 for 2023 with market-based method.

KPI Scope 2	2023	Unit
Climate impact per area	0.03	t CO ₂ e / m ²
Energy consumption per area	83.06	kWh / m ²



Scope 3

The climate impact within scope 3 stands for 1 0,939 tonnes CO₂e corresponding to 99% of the calculated climate impact. Njie Foods' scope 3 consists of purchased goods and services, capital goods, fuel- and energy-related activities, upstream transport and distribution, business travel and employees commuting.

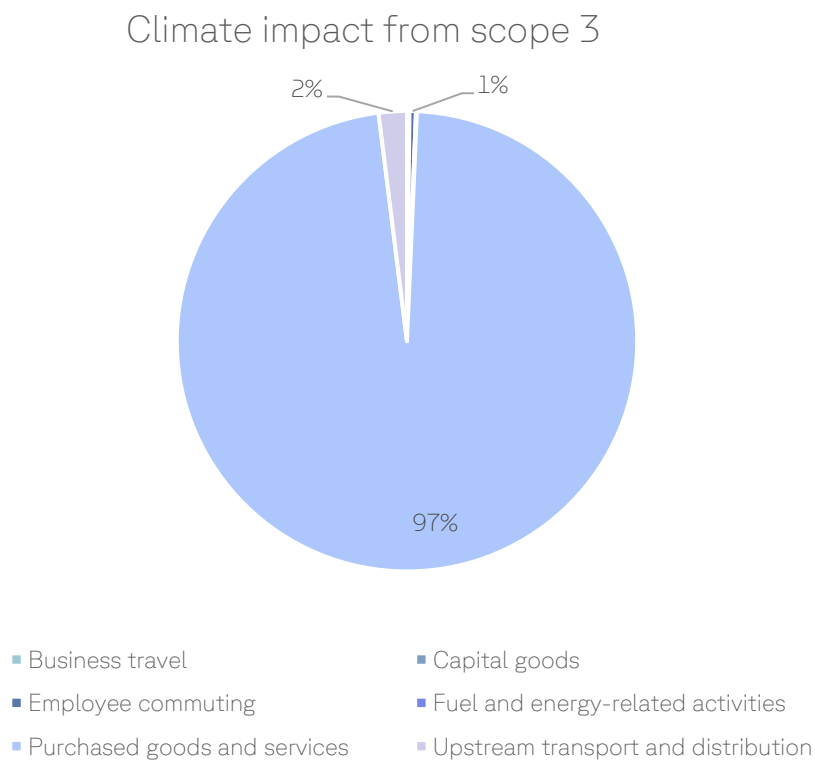


Figure 4. Climate impact in scope 3.

Table 10. Climate impact (tonnes CO₂e) in scope 3.

Climate impact (tonnes CO ₂ e)	2023	% of total 2023
Business travel	12.3	0.1%
Capital goods	6.8	0.1%
Employee commuting	49.3	0.5%
Fuel and energy-related activities	7.0	0.1%
Purchased goods and services	10 647.3	97.3%
Upstream transport and distribution	216.0	2.0%
Total	10 938.6	100.0%



Reliability Analysis

The reliability analysis classifies the result into three categories, measured, estimated and spend (financial data) based on the reliability of the activity data. The purpose is to evaluate the activity data and see whether the data collection can be improved. The analysis is based on whether the data is measured or estimated by the company or whether financial data has been used. Generalizations and average values for emission factors are not evaluated because the company have no influence on these.

Data that is estimated can be replaced with measured data to give a higher reliability of the result. Spend data should be used to a limited extent to achieve higher reliability. Climate impact calculated on spend data gives an overall picture and it can be difficult to reduce climate impact based on such a basis. This is because prices can vary, which falsely makes it look like the climate impact has changed. The distribution of measured, estimated and spend based data based on the climate impact is presented in Figure below.

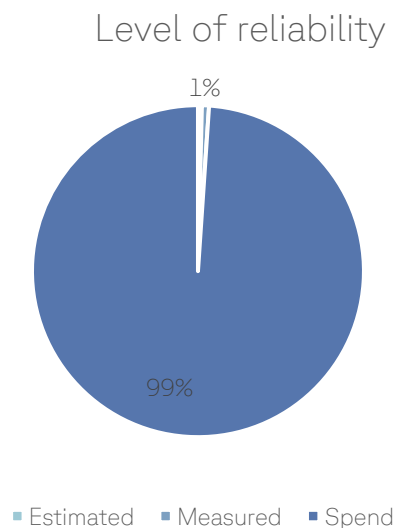


Figure 5. Reliability analysis of data for the climate audit.



Table 11.. Shows the climate impact (tonnes CO₂e) per data quality.

Climate impact (tonnes CO ₂ e)	2023
Estimated	49.3
Employee commuting	49.3
Measured	69.3
District heating	0.4
Electric vehicles	0.3
Electricity	26.2
Fuel and energy-related activities	7.0
Hybrid vehicles	22.2
Vehicles	13.1
Spend	10 882.3
Business travel	12.3
Capital goods	6.8
Purchased goods and services	10 647.3
Upstream transport and distribution	216.0



References

Source
Business travel
Exiobase 2024
Capital goods
Exiobase 2024
District heating
Swedenergy 2024
Electric vehicles
AIB 2024
SMED 2021
Electricity
AIB 2024
The Swedish Energy Markets Inspectorate 2024
Employee commuting
Atmoz 2024
Fuel- and energy-related activities
AIB 2024
DEFRA 2024
Swedenergy 2024
The Swedish Energy Markets Inspectorate 2024
Hybrid vehicles
Trafikverket 2022
Purchased goods and services
Exiobase 2024
Upstream transport and distribution
Exiobase 2024
Vehicles
DEFRA 2024