

Short summary report: Evolution in Carbon Footprint

beMatrix bv – update 2022

Wijnendalestraat 174 | 8800 Roeselare | Belgium

1. Overview

The report is made for beMatrix bv, head office located at Wijnendalestraat 174, 8800 Roeselare in Belgium; hereafter referred to as beMatrix.

1.1. Scope and organizational boundary

A CO2 footprint is the inventory of the total greenhouse gas emissions caused by an individual, event, organisation or product. The footprint is expressed in tonnage CO2 equivalent (tCO2e). The analysis for an organisation can be performed at different levels (Greenhouse Gas Protocol, 2022):

- **Scope 1:** Direct CO2 emissions, caused by own sources within the company. This concerns emissions from own building, transport and production-related activities. Examples are own generators, gas consumption and heating installations, own (truck) cars or the use of coolant in cooling equipment and climate installations.
- **Scope 2:** This includes the indirect emission of CO2 due to the generation of self-purchased and self-consumed electricity or heat. The company uses this energy internally, but does not generate it internally. It is physically generated elsewhere, for example in a power station.
- **Scope 3:** Indirect emissions of CO2 caused by the business activities of another company. These are emissions from sources that are not owned by the company and over which it has no direct influence, such as emissions caused by the production or extraction of purchased raw materials and materials and outsourced activities such as freight transport. Also the indirect emissions as a result of business traffic with private vehicles and business air traffic can belong to scope 3. Scope 3 comprise in fact the CO2 emissions in the entire life cycle of all products that the company buys, manufactures and/or sells (upstream and downstream).

This emissions inventory has been made in accordance with the requirements of ISO 14064-1. In accordance with the GHG protocol, a distinction is made between 3 sources of emission (scopes) in 2 categories: direct emissions (scope 1) and indirect emissions (scope 2 and 3) (see below).

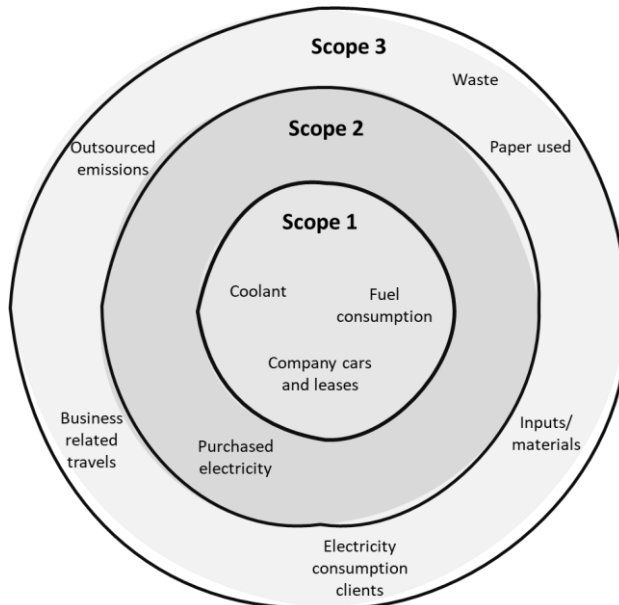


Figure 1: Schematic overview of the three scopes of a carbon footprint

This summary report concerns a follow-up of the previous reporting on the consecutive years 2019, 2020, 2021 and 2022 for all (production) sites of beMatrix in Belgium. It excludes the rental services and the US sites.

1.2. Short description activities and ambitions

beMatrix is a stand building pioneer, being the one and only true inheritor of the original frame system with big holes, invented in 1993. Through continuous innovation and offering they provide a product range with endless stand building possibilities.

Besides three production plants, beMatrix has several service hubs across the globe, for rental, sales and technical support. They produce the frame system in-house from A to Z, which provides them control of every step in the production process. beMatrix operates in close collaboration with clients and suppliers to optimise existing products and to develop new solutions. In innovations of product and during process optimisation, the environmental footprint is always considered. The most recent innovation has been the upgrade of the ECO frame.

Sustainability is high on the beMatrix agenda, e.g. when making strategic choices, but also in their day-to-day operations the ecological, economic and social needs are part of the decision-making process.

The aim of beMatrix is to minimise the impact of the organization by becoming Climate Neutral in the mid-term and Net Zero in the long term. This carbon footprint will also indicate the progress of actions that are needed to reduce the climate impact, in line with Science-Based Targets.

2. Evolution of the carbon footprint

Table 1 gives a summary of the yearly emissions of beMatrix for the different GHG emission posts.

Table 1: Summary of total emissions per post in tCO₂e per year of beMatrix (Bilan Carbone).

Source of emission	2019 (tCO ₂ e)	Uncertainty (in %)	2020 (tCO ₂ e)	Uncertainty (in %)	2021 (tCO ₂ e)	Uncertainty (in %)	2022 (tCO ₂ e)	Uncertainty (in %)
Energy (LB)	228	6%	195	5%	240	5%	268	6%
Non Energy (GHG leakage)	24	30%	24	30%	24	30%	24	30%
Inputs	8855	16%	1476	16%	4281	22%	5 291	17%
Packaging	7	35%	4	47%	1	20%	46	58%
Freight	1576	39%	391	36%	929	22%	2 095	23%
Mobility	493	9%	419	11%	134	7%	175	10%
Direct waste	50	31%	34	32%	41	33%	81	34%
Carbon depreciations	639	47%	639	47%	639	47%	639	47%
Total	11 873	13%	3183	13%	6289	16%	8 618	13%

In the summary calculations we use the (more conservative) estimation based on the location based approach. Using this approach, the overall CO₂ footprint of beMatrix for 2022 is **8618 ton CO₂e**, still below the footprint of 2019 which was 11 873 ton CO₂e. The main share of the emissions (61%) can be attributed to the inputs (dominantly aluminium). This is followed by a relatively smaller share of 24% from freight transports. The absolute emissions show a sharp reduction after the base year 2019, mainly related to the Covid crisis. Post-Covid emissions show a gradual rebound.

The uncertainty levels are below 20%, in accordance with the internationally accepted limit on uncertainty in carbon data. According to the ISO standard the GHG emissions of beMatrix are aggregated in 12 categories, subdividing direct emissions and different sources of indirect emissions.

Subdivided per scope, according the ISO 14069:2013 standard and following the location-based approach, the relative share of the emission of beMatrix (year 2022) includes 2% in scope 1 (direct emissions), 1% in scope 2 (indirect emissions from electricity consumption) and 97% in scope 3 (other indirect emissions).

Table 2 gives a summary of the interannual change for the different GHG emission posts.

Table 2: Summary of interannual change (in %) for the different GHG emission posts (Bilan Carbone, 2023)*.

Source of emission	Change 2022-2019 (%)
Energy (LB)	+18%
Non Energy (GHG leakage)	0.00
Inputs	-40%
Freight	+33%
Mobility	-65%
Direct waste	+62%
Carbon depreciations	0.00
Total (LB)	-27%

Energy: The direct emission related with the use of **fuel oil** equalled 24 tCO₂e in 2019; while no fuel oil was used in 2021 and in 2022 (0). Since the change of production hall, that room was no longer heated, although it is still used as stock warehouse where heating is fixed at 6°C. This is a positive evolution in line with the Climate Action Plan. **Electricity consumption** was higher in 2022 (608.017 MWh) as compared to 2021 (412.232 MWh) and 2019 (581.134 MWh). This can be related with recovering production levels post-Covid, and the impact of the opening of a third hall in late 2019.

Natural gas use reduced in 2022 as compared to 2021 (520 725 MWh in 2022 but 624 420 MWh in 2021). One should note that 2021 was the coldest year since 2016 (KMI, 2022).

Inputs: Emissions from metal resources, mainly aluminium, are responsible for the bulk of the footprint related with this emission post. In 2022, the **share of recycled aluminium** (E-Max, Hydro, Aliplast) was further on the rise. Supply from Gulf (delivering non-recycled aluminium) even stopped in May 2022. Meanwhile, Ayde TR is aiming to move from 0 % recycled aluminium in its supply towards 65% recycled aluminium over the next years.

The purchased **LEDskin volumes** were very low in 2021, due to covid and because of the large stock that was still present, but recovered in 2022. Finally, it is noted that a large amount of **ethanol** was purchased and stocked in 2021, corresponding to a significant extra impact after a new production line was opened, so less ethanol was purchased in 2022.

Packaging and waste: The purchased amount of plastics/foam and cardboard is significantly higher in 2022 as compared to 2021. The low **purchase of packaging** in 2021 are due to covid and because of the large stock that was still present. It is also noteworthy that a lot of **aluminium-contaminated waste** water was generated in 2022 (78 ton as compared to 20 ton in 2019). Residual waste volumes have remained rather stable since 2019.

Mobility and freight: Company owned cars are responsible for a significant part of the GHG emissions of the beMatrix mobility component; most are not yet electric vehicles. There is a significant increase in **business related flight travel** since last year, possibly related with a post-Covid rebound. On the longer term, there is also a very significant reduction in **commuting car travel**. This can be related with (i) a significant reduction in the number of employees related with the Covid crisis, from 109 FTE in 2019; (ii) a reduction in the average commuting distance; (iii) the start of a 20% telework scheme for white-collar workers. Besides, there is a clear rebound in **truck freight related emissions** in 2022 as compared to last year. This is mainly related with the recovering production levels, but also to a larger number of trips. There is also an increase in **outgoing aerial shipments** to Norcross (US). It should also be noted that profiles for the USA are shipped directly via sea from Ayde TR to BM USA since October 2022 (no longer first via truck to Belgium and then to the USA).

3. Conclusions

The CO2 footprint of beMatrix comprises a total of **8618 ton CO2e in 2022** according to the location-based approach, with an uncertainty of 13%. Subdivided per scope, this associates with 2% in scope 1, 1% in scope 2 and 97% in scope 3. The input-related emissions remain dominant with a share of 5291 tCO2e in 2022. This includes mainly aluminium inputs.

The Climate Action Plan is successfully started and the impact of the first actions starts to become clear. The Scope 3 emissions are declining along the SBTi. For Scope 1 and 2, faster reduction of natural gas use and fossil company cars is still required; and full procurement of renewable electricity is required. These last actions have been started as of June 2023.

Table 3: Monitoring results vs science-based targets .

Scope	tCO2e in 2019	2030 Target	tCO2e in 2022	On linear track?
Scope 1	175	1.5C: minus 46.2% in absolute terms	163	No: further reduction of gas and fossil cars still required
Scope 2	128	1.5C: minus 46.2% in absolute terms	134	No: higher degree of procurement of renewable electricity required
Scope 3	11 570	tCO2e per € EBITDA: minus 7% per year	8 335	Yes