

REPORT

ON THE ORGANISATION'S CARBON FOOTPRINT AUDIT

AUDIT IN COMPLIANCE WITH THE GHG PROTOCOL STANDARD

Audited entity:

Chain of 8a stores

Audit for the base year: 2022

Scope: I, II

Contractor

GreenX Utility Sp. z o.o.

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GreenX Utility

Commissioned by

The owner of the 8a chain of stores:

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greenx utility



1. OBJECTIVE OF THE AUDIT

- ✎ GreenX Utility, commissioned by the owner of the 8a store, prepared a calculation of the carbon footprint of its activity. Determining the level of emissions is to be used as a basis for climate action.
- ✎ Thanks to the calculation of the carbon footprint, the organisation knows which areas of its activity cause emissions and how high they are. If these emissions are offset, the company can credibly claim to be carbon neutral.
- ✎ At the same time, the carbon footprint helps companies identify which areas have the greatest potential to avoid and reduce emissions.
- ✎ Annual reports also enable companies to check progress.
- ✎ This study presents a summary report of the organisation's carbon footprint calculation for the chain of 8a stores. The full report is available upon individual request.

2. CARBON FOOTPRINT CALCULATION

- ✎ The report concerns the calculation of the carbon footprint for Scopes I, II in the organisation according to the Greenhouse Gas Protocol methodology.
- ✎ It is worth noting that individual industries have their own guidelines and good practices related to the calculation of the carbon footprint. Calculating the carbon footprint can be of interest to a wide range of stakeholders in a given organisation. Therefore, in addition to the calculation itself, a documented calculation methodology should be maintained, and an action plan for reducing greenhouse gas emissions should be developed, with targets being its integral part. A proven approach in this regard is based on the PDCA cycle appropriate for management systems from the ISO group.
- ✎ It is worth noting that the carbon footprint is not calculated once, but is updated at certain intervals.

3. SELECTED METHODOLOGY

- ✎ For the chain of 8a stores, a methodological approach based on the GHG Protocol – A Corporate Accounting and Reporting Standard was proposed. The choice of the methodology was based on its exhaustive description and the popularity of the standard among stakeholders, including NGOs, such as the Carbon Disclosure Project (CDP).
- ✎ The intention of the authors of this study is to address a wide range of potential recipients of calculations, as well as to make the described methodology transparent for use by representatives of the Organisation. For this to happen, it is necessary to emphasise the compliance of the GHG Protocol – A Corporate Accounting and Reporting Standard with standards that are largely identical, also regarding the calculation of greenhouse gases.

In order to present it in an understandable way, the following compatibility table was used:

STANDARD	COMPATIBILITY DESCRIPTION
PN-EN ISO 14064 – Greenhouse gases. Part 1 – Specification and guidance for quantifying and reporting greenhouse gas emissions and removals at the organisation level.	The standard presents a general division into direct and indirect emissions. The document complies with the GHG Protocol – A Corporate Accounting and Reporting Standard. Therefore, the present study should be identified as compliant in its calculation apparatus with the referenced standard.
Global Reporting Initiative	The link between the GHG Protocol – A Corporate Accounting and Reporting Standard methodology and the following GRI indicators is identified: <ul style="list-style-type: none"> a. 305-1 – corresponds to the scope I of the organisation's carbon footprint audit according to the GHG Protocol – A Corporate Accounting and Reporting Standard; b. 305-2 – corresponds to the scope II of the organisation's carbon footprint audit according to the GHG Protocol – A Corporate Accounting and Reporting Standard;

<p>ESRS – European Sustainability Reporting Standards</p>	<p>c. 305-3 – corresponds to the scope III of the organisation’s carbon footprint audit according to the GHG Protocol – A Corporate Accounting and Reporting Standard;</p> <p>d. 305-4 – corresponds to the emission intensity indicators presented in this study.</p> <p>Therefore, the present study should be identified as compliant in its calculation apparatus with the referenced standard.</p> <p>ESRS refer in their content to both the GHG Protocol – A Corporate Accounting and Reporting Standard and GRI indicators. Therefore, the present study should be identified as compliant in its calculation apparatus with the referenced standard.</p>
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Table 2 Table of methodological compliance of standards for calculating the organisation’s carbon footprint.

The Global Reporting Initiative (known as GRI) is an international, independent organisation that provides standards to help businesses, governments and other organisations understand and communicate their impact on aspects such as climate change, human rights and corporate governance. The GRI provides widely used guidelines for defining key indicators addressing the above issues, including guidelines that are understood as specifying an organisation’s carbon footprint.

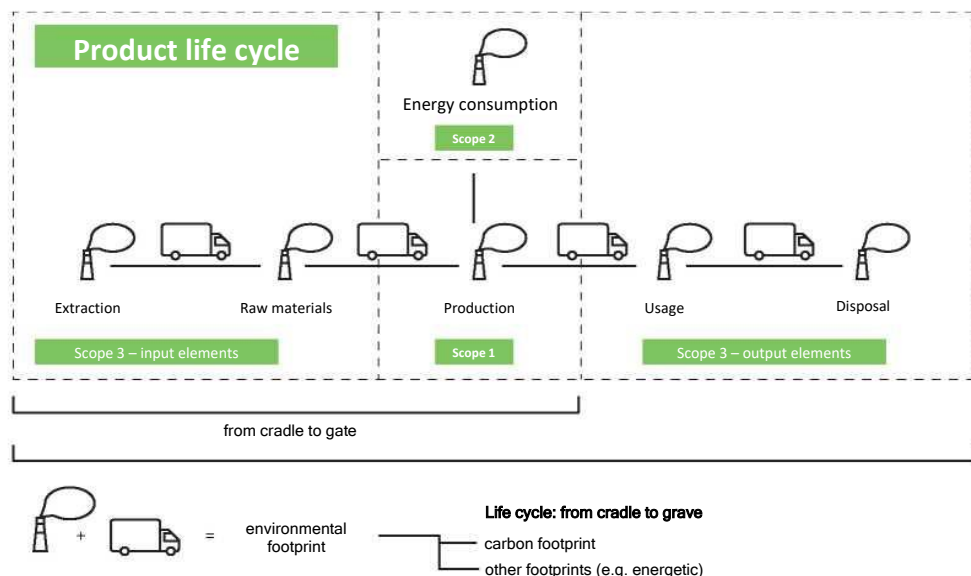
3.1 Reported greenhouse gases

In order to standardise the methodology for calculating the carbon footprint, the emission of each of the above-mentioned gases is translated into CO₂ emissions that are equivalent in terms of environmental impact. Hence, in a way, carbon dioxide has become a symbol of the fight against climate change.

- carbon dioxide (CO₂),
- methane (CH₄),
- Nitrous oxide (N₂O),
- Hydrofluorocarbons (HCFs),
- PerFluorocarbons (PFCs),
- Sulphur hexafluoride (SF₆),
- Nitrogen trifluoride (NF₃).

Monitoring of this set of greenhouse gases is dictated by the indications of the Kyoto Protocol, i.e. an international treaty on counteracting global warming from 1997. Pursuant to the provisions of the said agreement, the countries that decided to ratify it committed themselves to reducing their own emissions by 2012 by the agreed values. The indicators used in the subsequent pages of this study often refer to the overall impact of a given process on the emission of all greenhouse gases possible in a given process and are expressed in carbon dioxide equivalents – [CO₂e].

Figure 1 Organisation’s carbon footprint audit scopes



In order to standardise the calculation of the carbon footprint, several methodologies that are successfully used in practice have been developed. As regards the main assumption, i.e. the calculation of greenhouse gas emissions in a specific scope of the life cycle, these methodologies are consistent. However, they differ in such details as, for example, the possibility of excluding insignificant emissions. These methodologies include:

- a. the Greenhouse Gas Protocol;
- b. PAS 2050 – detailing the carbon footprint of a product. This standard is particularly popular among companies with British capital, as it was developed there;
- c. PN-EN ISO 14064 – Greenhouse gases. Part 1 – Specification and guidance for quantifying and reporting greenhouse gas emissions and removals at the organisation level.
- d. PN-EN ISO 14067 – Greenhouse gases. Product carbon footprint. Requirements and guidelines for quantification.

3.2 Audit calculation limits

The following are indicated as the calculation limits of the 8a's carbon footprint audit:

- a. Scope I – direct emissions arising from assets that are owned or controlled (financially or operationally) by a given organisation;
- b. Scope II – indirect emissions physically generated outside the borders of the audited organisation related to purchased energy carriers.

3.3 Designation and management of the base period

The calendar year 2022 is indicated as the base period for the audit. The year 2023 and subsequent years in which the organisation's carbon footprint will be audited are control years, referring to the base period. The year of the organisation's carbon footprint audit is understood as the full completed calendar year. Moreover, it should be emphasised that, in accordance with the GHG Protocol – A Corporate Accounting and Reporting Standard, the Organisation is expected to continuously improve the accuracy of calculations.

IV. RESULTS OF THE ORGANISATION'S CARBON FOOTPRINT CALCULATIONS

4.1 Greenhouse gas emissions in scope I

As mentioned in the chapter on identification of emission sources, within the scope of the examined Organisation, emissions within scope I are generated by:

- a. combustion of natural gas;
- b. use of refrigerants;
- c. fuel consumption;
- d. combustion of diesel fuel.

4.2 Greenhouse gas emissions in scope II

In the examined Organisation, emissions in scope II are generated by:

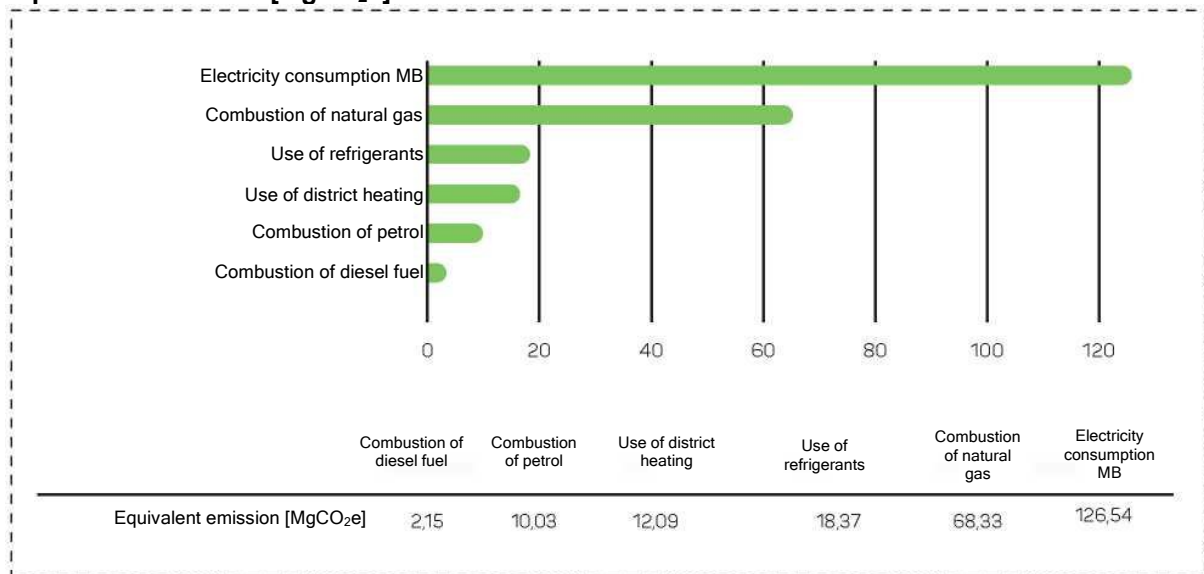
- a. use of electricity;
- b. use of district heating.

V. SUMMARY AND CONCLUSIONS

- The total emission of greenhouse gases in the audited period, within certain limits in the Organisation, amounted to **237.51 [t CO₂e]**.
- Translating this result into the indicator of the area occupied by the business activity in the base year, the value is **17.56 [kg CO₂e/m²]**.

These data are presented below in aggregate form:

Equivalent emission [MgCO₂e]



Summary of the calculations for the audited Organisation

Activity	Scope	Equivalent emission [MgCO ₂ e]
Combustion of diesel fuel	Scope I	2.15
Combustion of petrol	Scope I	10.03
Use of district heating	Scope II	12.09
Use of refrigerants	Scope I	18.37
Combustion of natural gas	Scope II	68.33
Electricity consumption	Scope II	126.54
Market-Based-Approach (MB)		