

# Corporate carbon footprint Scope 1&2

for HD Tools Ltd.



**Prepared by:** Veronika Borhegyi  
Sustainability Consultant

**Prepared by:**

**Checked:** Melinda Nyitrai-Cseh  
Manager

**Project  
number** 8491

**Document  
title** Determining the corporate  
carbon footprint Scope 1&2

**Version** 1.0

**Date** 18. 07. 2023

## **Contact**

### **denkstatt Hungary Kft.**

H-1037, Budapest, Seregély u.6.

Tel. : +36 1 1239 1206

Email: [denkstatt@denkstatt.hu](mailto:denkstatt@denkstatt.hu) [www.denkstatt.eu](http://www.denkstatt.eu)

## Content

<b>1. Executive summary</b> .....	<b>2</b>
<b>2. Calculation and estimation process, methodology</b> .....	<b>3</b>
<b>3. Results</b> .....	<b>4</b>
3.1. Presentation of the results.....	4
3.2. Interpretation and analysis of results .....	5
3.3. Location-based vs. market-based .....	5
3.4. Biogenic emissions .....	5
<b>4. Annexes</b> .....	<b>6</b>
4.1. Key data, descriptive information (as required by the Greenhouse Gas Protocol).....	6
4.2. Description of methods and data used.....	8

## 1. Executive summary

HD Tools Ltd. (HD Tools in the following) places great emphasis on environmental sustainability issues, and therefore asked denkstatt Hungary Kft. to calculate the carbon footprint of its activities.

During the project, we have determined the direct greenhouse gas (GHG) emissions (Scope 1) of HD Tools from its own activities (which it directly influences) and the indirect emissions (Scope 2) from purchased energy for the calendar year 2022. The calculations were performed following the GHG Protocol guidelines. Based on the calculations, in 2022, the **direct emissions** from the activities of HD Tools (**Scope 1**) were **11.3 tonnes of CO<sub>2</sub> eq**, the **indirect emissions from purchased energy (Scope 2)** were **19.54 tonnes of CO<sub>2</sub> eq**, the **total GHG emissions from Scopes 1 and 2 were 30.84 tonnes of CO<sub>2</sub> eq**. Biogenic emissions were 0.355 tonnes of CO<sub>2</sub> eq. Thus the total Scope 1 and 2 emissions including biogenic emissions as well were: 31.22 t CO<sub>2</sub> eq. In the light of the results, the largest part of the carbon footprint, 62.60%, is due to indirect emissions (Scope 2). Introduction

Nowadays, there are increasingly strong societal expectations regarding sustainability and the political and legal regulations and directives (e.g. European Green Deal, EU Taxonomy) that aim to achieve this. As a result of these increasing expectations, it is essential for a responsible company to focus on sustainability aspects, and one of the first steps is to address its own greenhouse gas emissions and plan its future strategy accordingly.

HD Tools has taken the first step on this path: with denkstatt, it has determined its carbon footprint from its own emissions. The current objective of HD Tools is to understand the magnitude of its carbon footprint in 2022, which can serve as a basis for defining a GHG emission reduction strategy.

## 2. Calculation and estimation process, methodology

In the calculation of the carbon footprint of HD Tools, we determined the GHG emissions from its own activities (Scope 1), the emissions from purchased energy (Scope 2). The data used for the calculation are for the calendar year 2022 and include emissions related to the operation of HD Tools's one and only production site at Futó utca 74, Miskolc.

Footprint calculation period: 01.01.2022- 31.12.2022

The carbon footprint was determined based on the Greenhouse Gas Protocol standards (Corporate Standard).

For the footprint calculation, we have considered the carbon sources recommended by the GHG Protocol, which are shown in Table 1. Company-specific activity data were provided by HD Tools. For the calculation, the emission factors that best approximate reality were used from international databases (DBEIS<sup>1</sup> , National Inventory Report (Hungary), International Energy Agency).

The carbon sources considered and the uncertainty in the calculation are summarised in the following table:

*Table 1. Carbon sources considered in the calculation and their associated uncertainty levels*

Scope	Carbon source name	Level of uncertainty
Scope I	<ul style="list-style-type: none"> <li>• Energy sources burned locally by the company</li> <li>• Refrigerants leaked during operation</li> <li>• Emissions from the use of vehicles owned or operated by the company, including on-site material handling</li> </ul>	low
Scope II	Electricity purchased by the company	low

---

<sup>1</sup> Department for Environment Food & Rural Affairs, Department for Business, Energy & Industrial Strategy - UK Government GHG Conversion Factors for Company Reporting

### 3. Results

#### 3.1. Presentation of the results

The results are reported in tonnes of carbon dioxide equivalent (CO<sub>2</sub> eq), which is one metric tonne of carbon dioxide (CO<sub>2</sub>), or an amount of greenhouse gas ((carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub> O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>)) with a global warming potential equivalent to the former.

The magnitude and percentage distribution of the carbon footprints determined for the activities considered in the calculations are shown in the following table.

Table 2. Magnitude and distribution of the carbon footprint in 2022

Scope	Category	Emissions (t CO <sub>2</sub> eq) 2022	%
Sc1	Locally fired energy sources	3.62	11.60%
Sc1	Use of air conditioning fluids, refrigerants	0.00	0.00%
Sc1	Vehicles owned or operated by a company	7.68	24.59%
Sc1	Material handling on site	0.00	0.00%
Sc2	Purchased energy (market-based)	19.54	62.60%
	<b>Total</b>	<b>30.84</b>	<b>100.00%</b>

The results for 2022 are illustrated in the figure below:

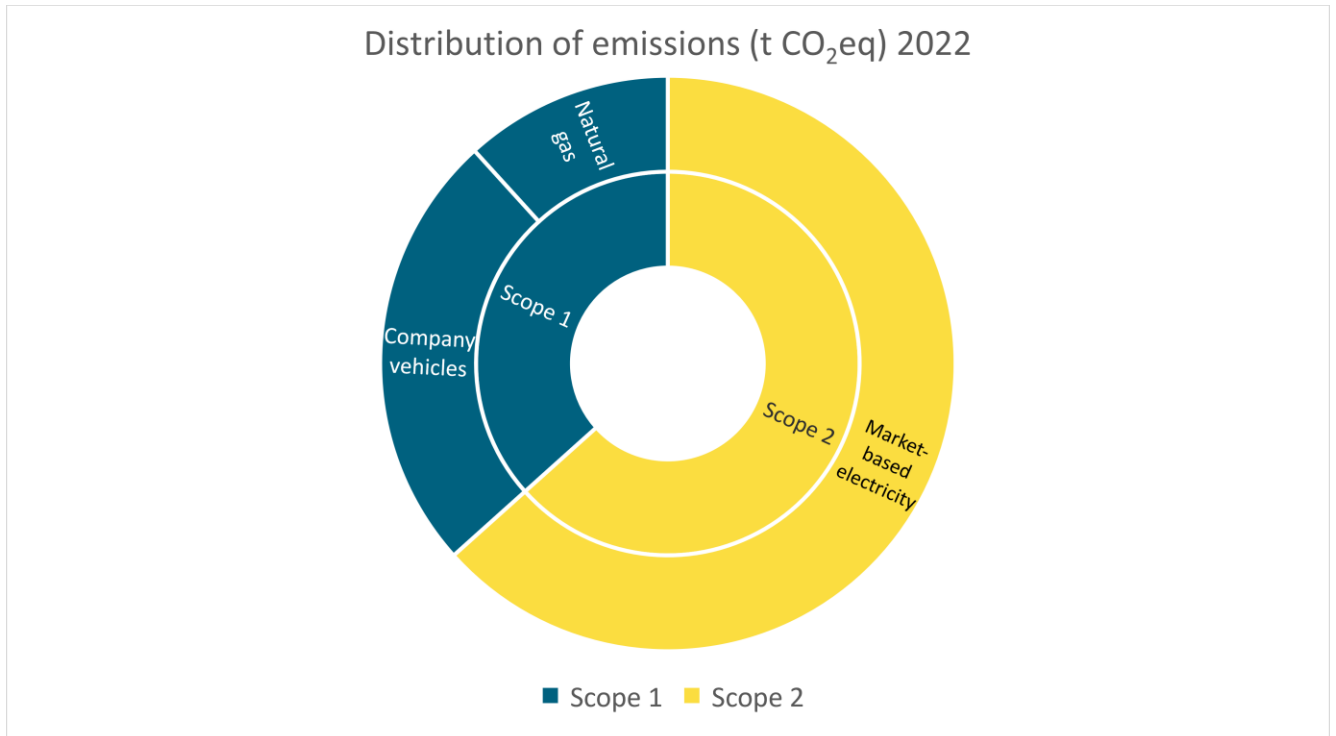


Figure 1. Distribution of the 2022 corporate carbon footprint of HD Tools by category (tonnes CO<sub>2</sub> eq)

### 3.2. Interpretation and analysis of results

HD Tools's **total carbon footprint for 2022, including indirect emissions was 30.84 tonnes CO<sub>2</sub> eq.**

<p style="text-align: center;"><b>Direct release (Scope 1): 11.30 t CO<sub>2</sub> eq (~36.63%)</b></p>	<p><b>Direct emissions</b>, i.e., Scope 1 emissions over which the company has more influence, <b>amounted to only 11.30 tonnes CO<sub>2</sub> eq in 2022</b>. This is about 36.19% of the result considering all direct and indirect emissions for the site. The source of this is mainly (68%) the fuel-use of company vehicles owned or operated by HD Tools, while 32% is originated from the natural gas consumption</p>
<p style="text-align: center;"><b>Indirect emissions (Scope 2): 19.54 t CO<sub>2</sub> eq (~63.37%)</b></p>	<p>A significant share of the GHG emissions associated with HD Tools's 2022 operations <b>were caused by indirect emissions</b>, i.e., emissions over which the company has only indirect control. Of these, Scope 2 emissions in 2022 <b>amounted to 19.54 tonnes of CO<sub>2</sub> eq.</b> This represents 63.37% of the total Scope 1&amp;2 emissions.</p>

### 3.3. Location-based vs. market-based

Scope 2 emissions can be calculated using two methods.

Location based calculation relies on country average electricity grid emission factors (from IEA).

Scope 2 market- based emissions are calculated primarily using emission factors provided by the energy providers contracted by the company. If such factors are not available, country level residual mix emission factors can be used. If the company purchases renewable energy certificates, the decrease in emissions shows up in market-based calculations, but not location-based. In the case of HD Tools, the Hungarian residual mix figure was used, as no energy provider specific emission factor was available at the time of the calculation.

Table 3. Market-based and Location-based emission from electricity use by HD Tools in 2022.

	Market-based	Location-based
<b>Electricity emissions</b>	<b>19.54 t CO<sub>2</sub>eq</b>	<b>15.63 t CO<sub>2</sub>eq</b>

### 3.4. Biogenic emissions

For HD Tools, biogenic emissions contribute little to the carbon footprint, however, they are present. The source of biogenic emissions is the electricity purchased by the company (under the assumption that the Hungarian grid contains bioenergy) and the diesel in company vehicles (under the assumption that it is an average biofuel blend based on DBEIS)

Biogenic emissions from the operations of HD Tools are **0.355 t CO<sub>2</sub>eq.**

## 4. Annexes

### 4.1. Key data, descriptive information (as required by the Greenhouse Gas Protocol)

Type of information	Information
The name of the company	HD Tools Plastic and Metal Processing Ltd.
A brief introduction to HD Tools	<p>HD Tools Ltd. is a custom manufacturing company operating in Miskolc in Hungary. The main profile of the company is the development and production of custom components and tools. The portfolio includes the mechanical and electrical design, manufacture, redesign, maintenance and automation of industrial machines and production equipment.</p> <p>HD Tools develops its products in close cooperation with its clients. It supports the development of new products for its customers by designing and manufacturing the corresponding tools, devices and industrial machines.</p> <p>HD Tools provides services closely related to the above activities is the mechanical and electrical design and construction of industrial machinery and equipment.</p> <p>HD Tools is a small company with approximately 20-25 employees, however climate- and environmental protection is in the core of the company operation.</p>
The consolidation approach chosen	operational control
Description of the business lines and activities within the organisational boundaries of HD Tools	This carbon footprint covers all activities of HD Tools Ltd.
The reporting period	2022.01.01.-2022.12.31.
List of Scope 3 activities included in the report	Not included. HD Tools plan to calculate it's Scope 3 emissions in the near future.



Type of information	Information
List of Scope 1, 2 and 3 activities not included in the report or calculation, together with the reasons for their exclusion.	Scope 3 is not included due to available resources. HD Tools plan to calculate its Scope 3 emissions in the near future.
The year chosen as the base year and the justification for the choice of the base year	<p>The base year chosen is 2022 as:</p> <ol style="list-style-type: none"> <li>1) This is the first year, when Scope 1&amp;2 carbon emissions are calculated.</li> <li>2) This is the most recent year for the target setting procedure as well (HD Tools aims to set a near-term Science-Based Target based on the Scope 1&amp;2 emission calculation).</li> </ol>
Once the base year is defined, the emissions recalculation policy for the selected base year. If the base year emissions have been recalculated, a description of the background of the significant emission changes that triggered the recalculation	HD Tools' base year emissions recalculation policy includes a significance threshold of 5% in accordance with SBTi recalculation criteria.

## 4.2. Description of methods and data used

Scope	Methods used to calculate or measure emissions, with reference to the calculation tools used
Scope 1	Scope 1 emissions include energy sources (natural gas) burned on site at the HD Tools site, vehicles owned and operated by the company and refrigerants leaked. The amount of natural gas burnt is broken down by month, while the consumption of cars and climate leaks are aggregated for the whole year 2022. Sources for emission factors are the National Inventory Report (Hungary), and DBEIS databases.
Scope 2	The Scope 2 emissions activity data (primary data) includes the electricity purchased by HD Tools, which is read from meters. The location-based emission factor is a field factor based on the International Energy Agency (IEA) Hungarian energy mix. The market-based emission factor is based on the AIBnet Hungarian residual mix factor. <sup>2</sup> The energy provider could not provide a specific emission factor to HD-Tools.

<sup>2</sup> <https://www.aib-net.org/facts/european-residual-mix>

## Your trusted advisor in Central and Eastern Europe

- Successful since **1993**
- **150** dedicated experts
- **7 Offices across Europe** in Central and Eastern Europe
- International **network:** Inogen® Environmental Alliance
- **Stable** customer base



Environmental, occupational health and safety IT solutions



Business management systems, legal compliance



Sustainability strategy and reports, carbon footprint



Environmental planning, impact assessments, IPPC, pollution assessment



Environmental due-diligence related to the sale and purchase



Sustainable buildings (BREEAM, LEED) and urban development

### Contact

**denkstatt Hungary Kft**

H-1037, Budapest, Seregély u.6.

Tel. : +36 1 1239 1206

Email: [denkstatt@denkstatt.hu](mailto:denkstatt@denkstatt.hu)

[www.denkstatt.eu](http://www.denkstatt.eu)

