



# Guide to ClimateCalc calculator

ClimateCalc Version 2.0

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

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## 1 Purpose <sup>NEW</sup>

This guide is made with the purpose to be a tool to get started making carbon calculations in the company. For a description of the background of ClimateCalc and which standards and data that have been used, we refer to [www.climatecalc.eu](http://www.climatecalc.eu) on subpage “Standards and data”.

The guide is updated according to ClimateCalc version 2.0 and describes many of the new features in ClimateCalc version 2.0. The descriptions of the new functionalities are marked with NEW in the headline to emphasize these and to make them searchable.

## 2 User access

To use ClimateCalc the company must have at least one user set up with a username and a password. For access to ClimateCalc please see contact information on [www.climatecalc.eu](http://www.climatecalc.eu) on subpage “About ClimateCalc”.

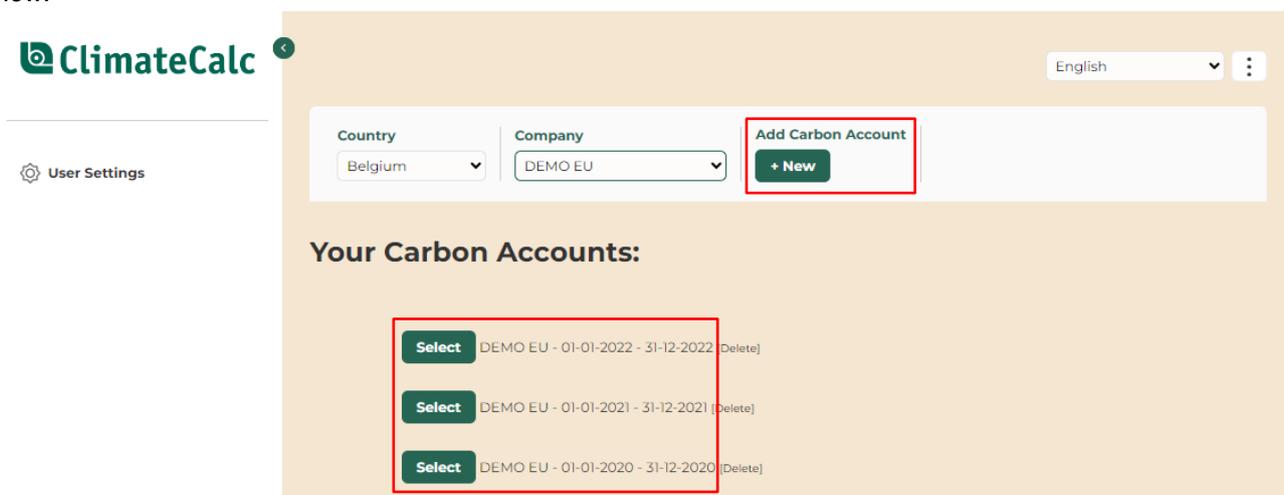
### 2.1 Multiple users <sup>NEW</sup>

If needed the company can setup new company users and define permissions to different parts of ClimateCalc. This might be relevant if for example several people should be able to do product calculations, or if an external consultant is to assist the company. The user permissions can be restricted to for example only the product calculation or to the full carbon account. Please refer to section 19.1 in this document.

## 3 Start page of ClimateCalc

After login to ClimateCalc the user enters the start page. On the start page the user can select an existing carbon account or create a new carbon account by pressing the button “+ New”. This button will only be available if the user has the permission to create a new carbon account. Please refer to section 19.1 in this document for customizing user permissions.

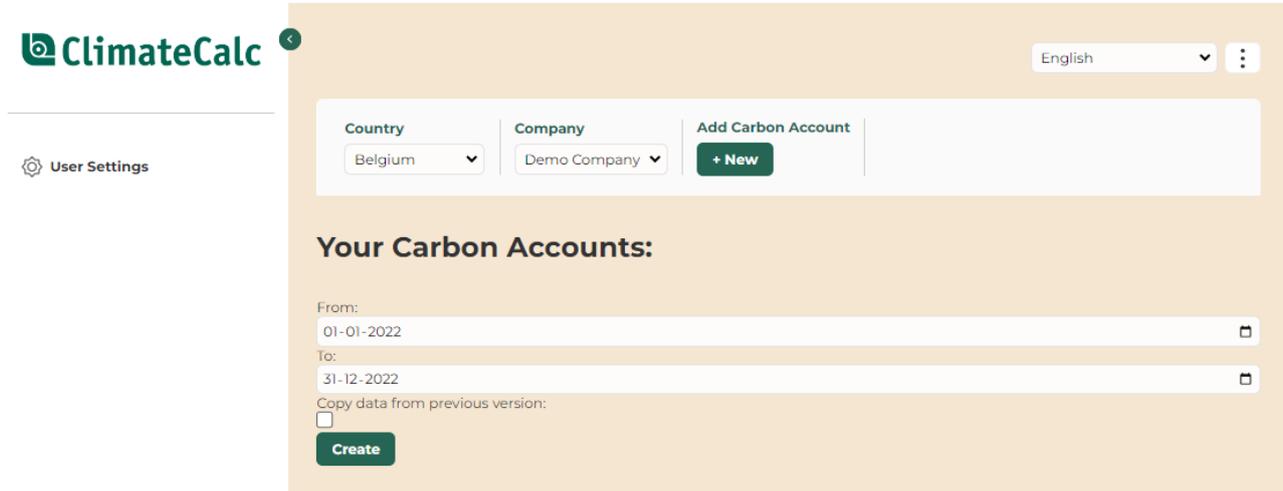
Figure 3.1. Start page of ClimateCalc with the options for selecting existing carbon account or creating a new.



### 3.1 Creating a new carbon account

First step is for the company to define the period for the company's carbon account. As a point of reference, the period must be a full year and may be either the previous calendar year or the company's latest financial year.

Figure 3.2. Creating a period for carbon account.



The screenshot shows the ClimateCalc user interface. At the top left is the ClimateCalc logo. Below it is a 'User Settings' link. On the right, there is a language dropdown set to 'English'. The main content area has three sections: 'Country' with a dropdown set to 'Belgium', 'Company' with a dropdown set to 'Demo Company', and 'Add Carbon Account' with a '+ New' button. Below these is the 'Your Carbon Accounts:' section, which includes 'From:' (01-01-2022), 'To:' (31-12-2022), and a checkbox for 'Copy data from previous version:' which is currently unchecked. A 'Create' button is at the bottom.

**NOTICE:**

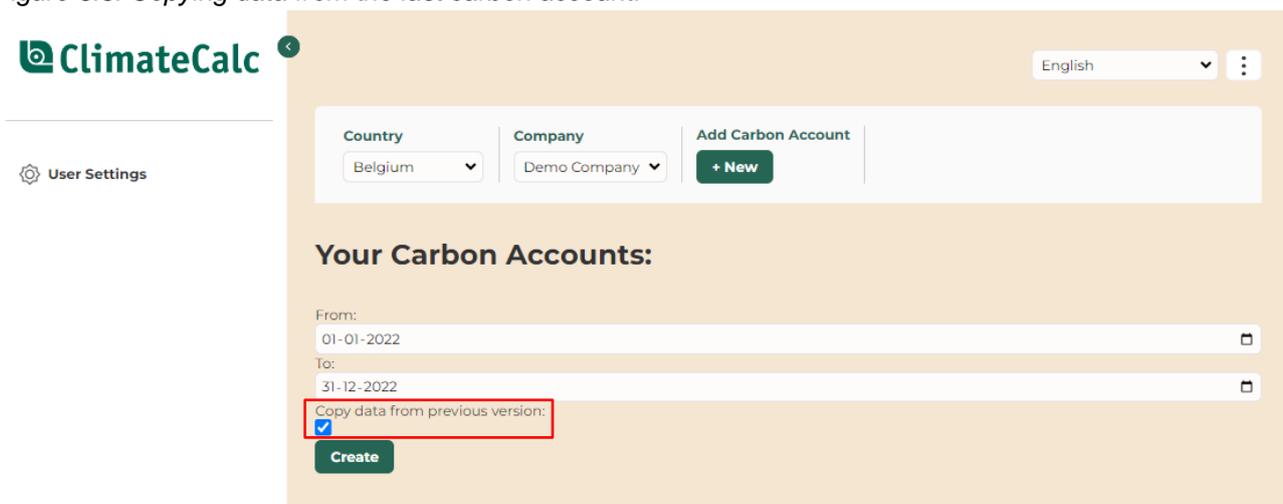
**It is not possible to change the period for a carbon account after creation.**

### 3.2 Copying data from previous period

If a company has previously created a carbon account, all entries can be copied to a new period. The purpose is to make the entry of new data and data references easier.

To copy data tick off the box: "Copy data from previous version" before creating the new carbon account.

Figure 3.3. Copying data from the last carbon account.

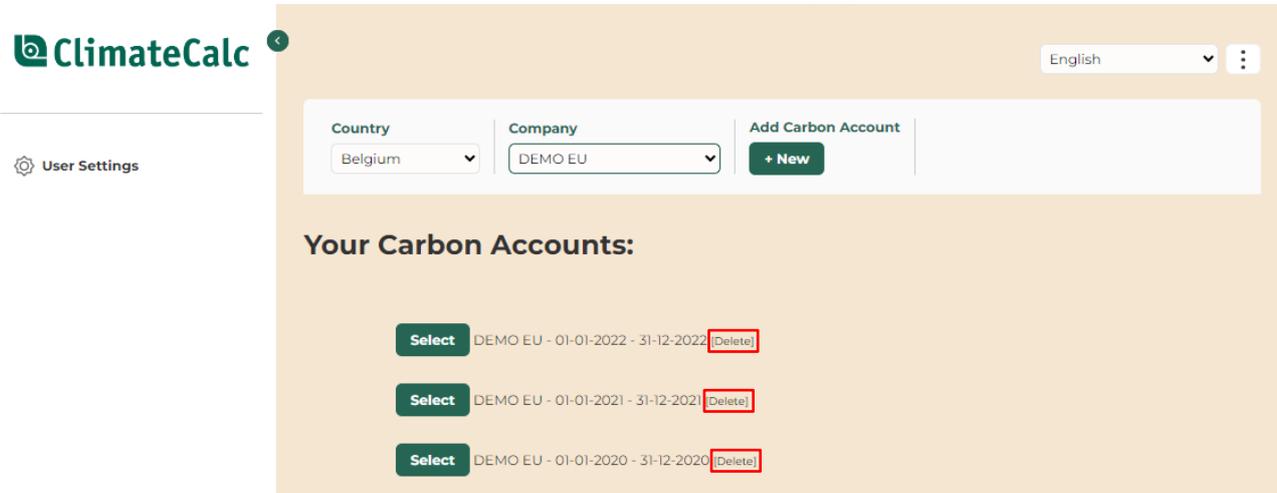


This screenshot is identical to Figure 3.2, but the checkbox for 'Copy data from previous version:' is now checked. A red rectangular box highlights this checkbox and its label.

### 3.3 Deleting carbon account for a period

If the company mistakenly has created a carbon account for an incorrect period, the carbon account can be deleted from the start page.

Figure 3.4. An incorrect carbon account can be deleted from the start page.

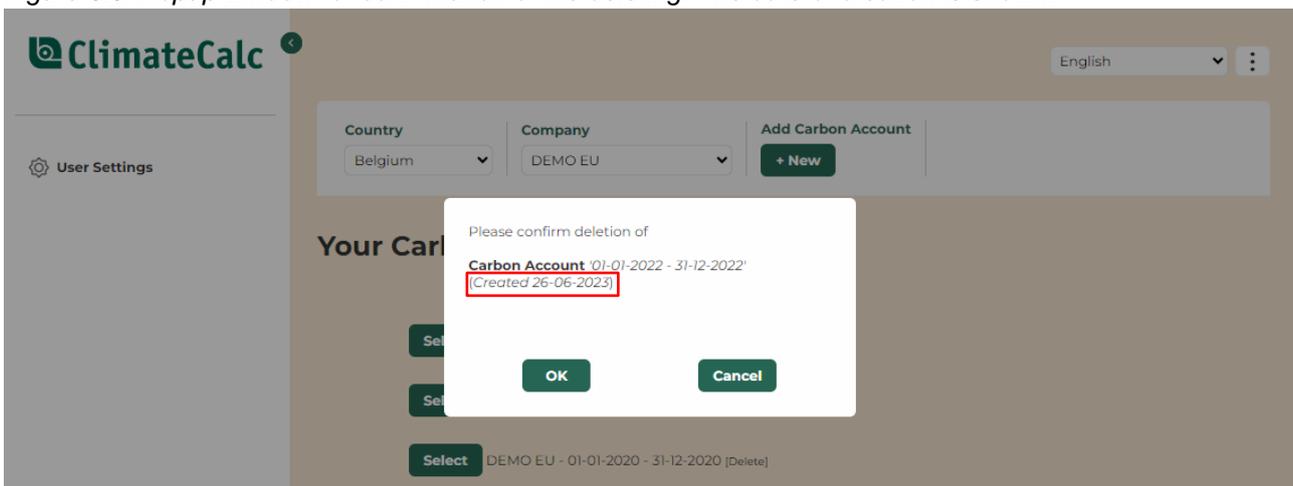


**NOTICE:**

Any data entered in a carbon account with an incorrect period can be copied to a carbon account with a correct period before the incorrect carbon account is deleted.

When a carbon account with an incorrect period is to be deleted, it's important to be aware not to delete any valid carbon accounts. To ensure this, the date of creation of the account appears in the popup window for confirming the delete of the account.

Figure 3.5. Popup window for confirmation of the deleting. The date of creation is shown.



**NOTICE:**

Once an account has been deleted, it can only be recreated by the ClimateCalc secretariate.

## 4 Construction of the carbon calculator <sup>NEW</sup>

The calculator is constructed with a left side menu with tabs divided into different categories:

<p><b>Output tabs:</b></p>	<ul style="list-style-type: none"> <li> Carbon account</li> <li> Product calculation</li> <li> Development</li> <li> Benchmark</li> </ul>	<p>The output tabs show the results of the data, which the company has entered in the form of the company's carbon account plus possible product specific calculations, development and the benchmark function.</p> <p>NOTICE that the tabs for product calculation and benchmark are locked until the company is certified.</p> <p><b>These tabs are described in section 15-18 in this document.</b></p>
<p><b>Input tabs:</b></p>	<ul style="list-style-type: none"> <li> Input company</li> <li> Input employees</li> <li> Input substrate</li> <li> Input purchased transportation</li> <li> Outsourcing</li> </ul>	<p>On the input tabs data is entered, which provides the background for the company's carbon account and product specific calculations.</p> <p>Download a template for collection of data to the carbon account <a href="http://www.climatecalc.eu">www.climatecalc.eu</a> on subpage "Calculation and tools".</p> <p>NOTICE: The tab: "Company information" is the first tab to be completed.</p> <p>NOTICE: The tab: "Outsourcing" is only visible if product calculations have been shared by a contractor.</p> <p><b>These tabs are described in section 9-13 in this document.</b></p>
<p><b>Emission calculation:</b></p>	<ul style="list-style-type: none"> <li> Emission calculation</li> </ul>	<p>On this tab, ClimateCalc makes detailed calculations of the greenhouse gas emissions based on data entered in the input tabs.</p> <p><b>This tab is described in section 14 in this document.</b></p>
<p><b>User settings</b></p>	<ul style="list-style-type: none"> <li> User Settings</li> </ul>	<p>On this tab different user settings can be defined for the user logged in.</p> <p><b>This tab is described in section 5 in this document.</b></p>
<p><b>Labels</b></p>	<ul style="list-style-type: none"> <li> Labels</li> </ul>	<p>On this tab the two types of labels provided by ClimateCalc can be downloaded in different languages.</p>

NOTE: Some of the tabs listed above are not available in ClimateCalc Basic.

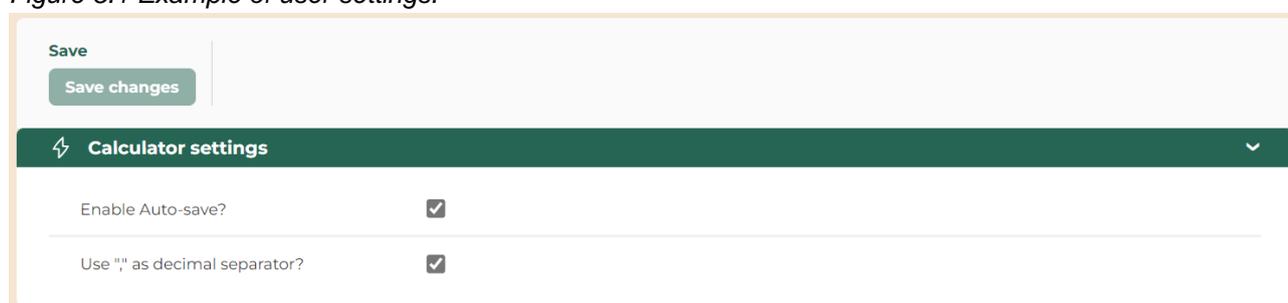
## 5 Tab: User setting <sup>NEW</sup>

On this tab the following user settings can be defined:

Available user setting	Explanation
Enable Auto-save?	When tick marked all changes made in the ClimateCalc calculator will automatically be saved. NOTICE: Auto-save is not available in the administration section of the ClimateCalc calculator.
Use “,” as decimal separator	When tick marked decimals will be separated by comma (,). If no tick decimals are separated by a dot (.).

**NOTICE:**  
The user settings are specific for the user logged in.

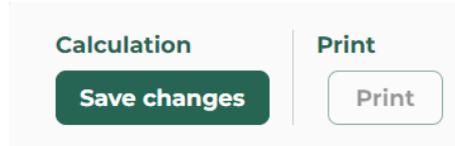
Figure 5.1 Example of user settings.



## 6 Typing in data

When typing in data, there is an Auto-save function available, but it is also possible to manually save while typing in data in the top section of each tab. In section 5 in this document, it’s described how the Auto-save function is adjusted.

Figure 6.1 Example of buttons to save and print data in the top section of each tab.



When typing, ClimateCalc will automatically draw attention to missing data entry. This is shown with **RED text** or **RED marks**. When the carbon account is to be verified, there must be no red marks.

**NOTICE:**  
In some situations, it may not be possible to save typed data, if red marks occur.

Figure 6.2 Example of typing where the red marks show missing data entry in the fields of “responsibility” and “Describe where data come from”.

A. Purchased fuel for burning in the company's own stationary burning units							Describe where data come from
1.	Natural gas	Fill in only one cell	<input type="text"/> Nm <sup>3</sup>	<input type="text"/> kWh	-- responsibility	<input type="text"/>	<input type="text"/>
2.	LPG	Fill in only one cell	<input type="text"/> m <sup>3</sup>	11500 kg	-- responsibility	<input type="text"/>	<input type="text"/>
3.	Heating oil (light)	Fill in only one cell	<input type="text"/> litre	<input type="text"/> kg	-- responsibility	<input type="text"/>	<input type="text"/>
4.	Other fuel		<input type="text"/> kg	<input type="text"/> kg	-- responsibility	<input type="text"/>	<input type="text"/>
5.	Other fuel		<input type="text"/> kg	<input type="text"/> kg	-- responsibility	<input type="text"/>	<input type="text"/>
6.	Other fuel		<input type="text"/> kg	<input type="text"/> kg	-- responsibility	<input type="text"/>	<input type="text"/>

As a point of reference all typed data must be stated as the total of the previous calendar year or for the company’s latest financial year. Use the template below to collect the relevant data.:

**TOOL**  
**Template for collection of data for the carbon account. Download: [www.climatecalc.eu](http://www.climatecalc.eu) on subpage “Calculation and tools”**

## 6.1 Units

For several parameters, it is possible to make entries in different units such as for example consumption of cleaning agents in both "kg" and "litres". As the fields are automatically converted and summed, as a rule only one field must have data entered, unless there is consumption data in the company which is specified in different units. If there is data with units other than those specified in ClimateCalc, conversion can be carried out via section 21 in this document.

## 6.2 Data sources

In addition to all entered data, it must be stated who is responsible for the data and the source of the data. This will make it easier to carry out the calculation next year and is also a condition for the account to be verified.

## 7 Language

If the company wishes to present the carbon account or a product calculation in another language, this can be changed in the drop-down menu in the upper right corner of all tabs.

Figure 7.1. Select language via the drop-down menu in the upper right corner.

## 8 Tab: Company information

In this tab the company must enter general information such as address and contact information. In addition, a clear description of the activities and processes covered by the carbon account must be stated.

### Ready for certification and upload of data

When the company has entered all relevant data on the input tabs, the relevant documentation must be uploaded in the upload section. When the company is ready for certification, this must be marked by pressing the button "Completed".

Figure 8.1. Use The button "Completed" when the company is ready for certification. The relevant documentation is uploaded in the section below.

Company information

Company name: Speed Print

Address: Print Road 4

Postal code: 1000

City: Brussels

Country: Belgium

Number of employees: 30

Activities and processes included in the account: Printing in sheetfed and in-house finishing.

Mark when data input is completed and the company is ready for audit (By pushing the button an e-mail is sent to the auditor)

**Completed**

Upload Documentation

Vælg filer Der er ingen fil valgt

#### NOTICE:

When the button "Completed" is activated, an e-mail will be sent automatically to the organization that is to audit the company.

### 8.1 Various printing techniques

ClimateCalc offers the possibility to enter data for a variety of printing techniques. The printing techniques used in the company must be ticked to be able to enter data for the printing techniques under the tabs "Input company" and "Product calculation".

Figure 8.2. Example of printing techniques in use.

Printing technologies used in the company

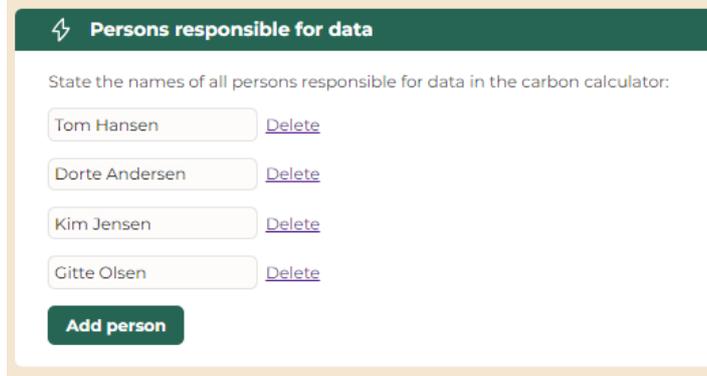
Tick mark the check boxes for the printing technologies used in the company:

- Heatset printing
- Sheetfed printing
- Coldset printing
- Flexographic printing
- Screen Printing
- Digital printing
- Magazine rotogravure printing

## 8.2 Persons responsible for data

To make the entry of information easier, add the names of all persons responsible for data under the tab “Company information”. The persons responsible can subsequently be selected in the drop-down menu next to the specific data on each tab.

Figure 8.3. Example of typing names of responsible persons for data.

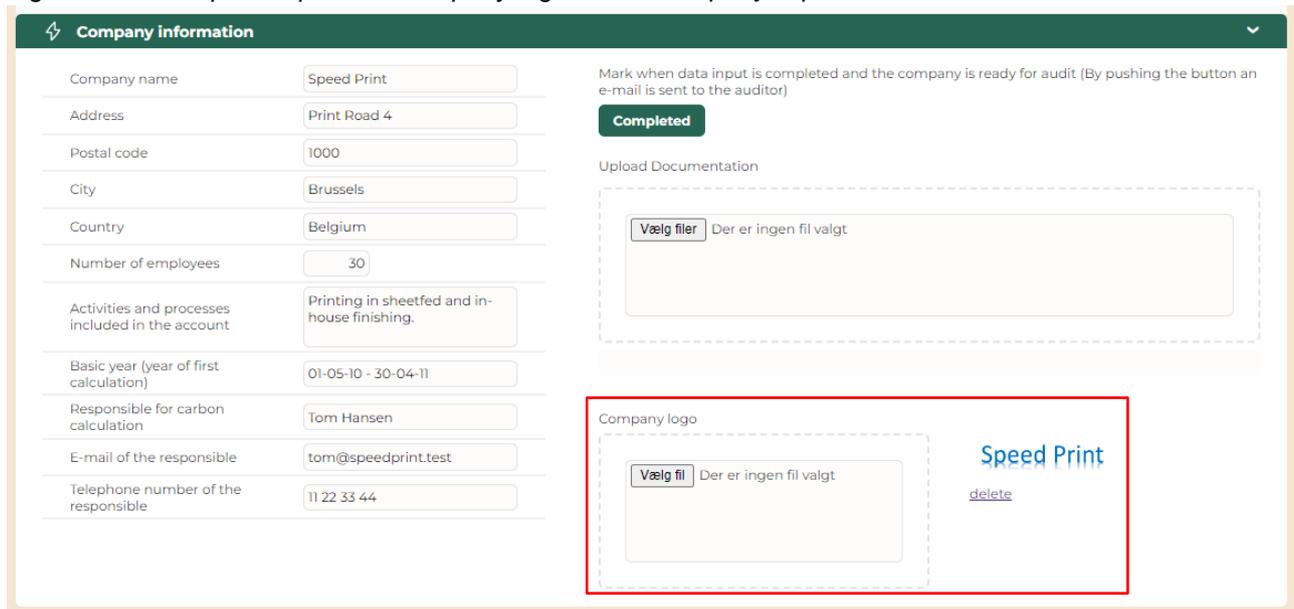


The screenshot shows a form titled "Persons responsible for data". It contains a list of four names, each in a text input field with a "Delete" link to its right. The names are Tom Hansen, Dorte Andersen, Kim Jensen, and Gitte Olsen. Below the list is a green "Add person" button. The form is set against a light green background with a dark green header bar.

## 8.3 Company logo <sup>NEW</sup>

On this tab there is an option to upload a company logo to be presented on the pdf print of the carbon account and the product calculation.

Figure 8.4. Example of upload of company logo for the company “Speed Print”.



The screenshot shows the "Company information" form. The form is divided into two columns. The left column contains various input fields for company details: Company name (Speed Print), Address (Print Road 4), Postal code (1000), City (Brussels), Country (Belgium), Number of employees (30), Activities and processes included in the account (Printing in sheetfed and in-house finishing), Basic year (year of first calculation) (01-05-10 - 30-04-11), Responsible for carbon calculation (Tom Hansen), E-mail of the responsible (tom@speedprint.test), and Telephone number of the responsible (11 22 33 44). The right column contains a "Completed" button, an "Upload Documentation" section with a "Vælg filer" button and the text "Der er ingen fil valgt", and a "Company logo" section with a "Vælg fil" button, the text "Der er ingen fil valgt", and a "Speed Print" logo with a "delete" link. A red box highlights the "Company logo" section.

## 9 Tab: Input company

*NOTE: Some functionalities on this tab are not available in ClimateCalc Basic.*

The company must enter data for purchase of fuel, energy, raw materials, waste products etc. for all the relevant parameters in the tab. As a point of reference, all data must be stated as the total of the previous calendar year or of the company's latest financial year.

### 9.1 Special data

If consumption of for example other fuel, electricity, district heating or plates is entered than what is default in ClimateCalc, specific data must be entered on the tab "Emission calculation".

*Figure 9.1. Example of typing specific electricity. The red text shows that supplementary data must be typed on the tab: "Emission calculation".*

C. Purchased energy for use in the company and vehicles					
					Describe where data come from
1.	Electricity for use in the company	Fill in only one cell	<input type="text"/> kWh	<input type="text"/> MJ	-- responsibility --
2.	Electricity (supplier specific)	Fill in only one cell	250000C kWh	<input type="text"/> MJ	Dorte Andersen
<p style="color: red;">ALSO TYPE EMISSION DATA FOR SUPPLIER SPECIFIC ELECTRICITY ON THE SHEET: EMISSION CALCULATION POINT C2.1 AND C2.2</p>					

### 9.2 Stationary combustion units (paragraph A)

Stationary combustion units are defined as combustion which takes place in for example boilers, kettles, motors, generators and turbines, which are permanently installed and owned by the company or controlled by the company.

### 9.3 Data for natural gas (paragraph A) <sup>NEW</sup>

Since the heating value of natural gas varies and is dependent on the specific supplier of natural gas the default data in ClimateCalc might not always be completely representative. To make the data as representative as possible it is recommended to enter data for natural gas in **kWh**.

### 9.4 Data for electricity (paragraph C)

When entering data for electricity it is possible to enter input of purchased electricity used in the company itself (C1 and C2) as well as purchased electricity used for electric vehicles which are not charged in the company (C3 and C4) and which therefore are not covered by the electricity consumption under C1 and C2.

ClimateCalc makes it possible to enter consumption of electricity by using either default data or supplier-specific data.

#### Default data

The default data in ClimateCalc represent average electricity for the country and is entered in C1 and C3. The default data include both the emissions that take place directly during electricity production as well as the upstream emissions from the manufacture and transport of fuels as well as transmission losses in the electricity grid.

#### Supplier-specific data

Supplier-specific data refers to documentation from the electricity supplier in the form of a declaration. The information must be entered in C2 and C4 under the "Emissions calculation" tab. Emission data must be entered for both the emission of greenhouse gases from electricity production as well as upstream data for transmission losses in the electricity grid and data for the manufacture and transport of fuels.

**NOTICE**

**Supplier-specific data for electricity production must include upstream emissions from production and transportation of fuel. See section 14 “Tab: Emission calculation” for an explanation of upstream emissions.**

**It is not possible to declare an emission factor for electricity which is zero because the emission factor for electricity must include upstream emissions from for example the production of the fuels for the generation of the electricity.**

## **9.5 Data for district heating (paragraph C)**

The emissions of greenhouse gases from the production of district heating varies from one district heating supplier to another. On the one hand, there may be differences in the energy sources used, and on the other hand some district heating plants in addition to district heating, also produce electricity which is sold via the electricity grid. The large differences between plants mean that it is not reliable to use average data for district heating production in the country. Therefore, it is necessary to obtain specific data from the specific supplier. Data must be available either as

1. Operating data for the district heating plant or
2. Supplier specific data

### Operating data for the district heating plant

To calculate the emissions of greenhouse gases from the district heating plant, the composition of the energy sources used, and the efficiency of the plant must be known. The emission calculation is based on a series of generic data including the emissions coming directly from the district heating production as well as the upstream emissions from production and transportation of fuels. ClimateCalc provides, via generic data, the possibility to enter consumption of the following energy sources:

- Coal
- Natural gas
- Biofuel
- Waste heat

The efficiency of the plant must always be entered in the calculator. If the plant produces electricity for the electricity grid the efficiency of the electricity must be entered, too. It should be noted that if a district heating plant also produces electricity, there is a deduction in the calculated greenhouse gases for the share of electricity sold to grid.

Finally, the transmission loss in the heating system must be entered.

Figure 9.2. Example of entering operating data from the district heating plant.

4.	Electricity (supplier specific)	Fill in only one cell	<input type="text"/>	kWh	<input type="text"/>	MJ	-- responsibility	<input type="text"/>
5.	District heating (plant calculation)	Fill in only one cell	350000	kWh	<input type="text"/>	MJ	Dorte Anderser	Green Heat: Suppli
State the share of energy sources for the district heating plant:		Coal:	<input type="text"/>	25	%		Dorte Anderser	Green Heat: e-mail
		Natural gas:	<input type="text"/>	25	%		Dorte Anderser	Green Heat: e-mail
		Biomass:	<input type="text"/>		%		-- responsibility	<input type="text"/>
		Waste heat:	<input type="text"/>	50	%		Dorte Anderser	Green Heat: e-mail
		100%						
State the energy efficiencies for the district heating plant:		Heat efficiency:	<input type="text"/>	50	%		Dorte Anderser	Green Heat: e-mail
		Electricity efficiency:	<input type="text"/>	25	%		Dorte Anderser	Green Heat: e-mail
State the transmission loss in the heating system:			<input type="text"/>	20	%		Dorte Anderser	Green Heat: e-mail
6.	District heating (supplier specific)	Fill in only one cell	<input type="text"/>	kWh	<input type="text"/>	MJ	-- responsibility	<input type="text"/>

### Supplier-specific data

To document supplier-specific data, district heating suppliers must provide a declaration. The data should be entered in the "Emission Calculation" tab and must cover both greenhouse gas emissions from the district heating production as well as data for upstream emissions transmission losses in the heating system and emissions from production and transportation of fuels.

#### NOTICE

**Supplier-specific data for district heating production must include upstream emissions from production and transportation of fuel. See section 14 "Tab: Emission calculation" for an explanation of upstream emissions.**

### 9.6 Companies without printing (paragraph F)

ClimateCalc is designed to use the consumption of purchased substrate as the default reference for the key figures in the carbon account. However, the company may have a production process where the quantity of substrate is not representative for the size of the production. In this case, it is relevant to define an alternative reference for calculating the key figures in the carbon account. This may for instance be relevant for finishing companies with a limited or no consumption of purchased substrate. The alternative reference may for example be the company's turnover or produced square meters of product. The alternative reference is entered under point F1 and F2.

#### NOTICE

**Even though data are entered under point F1 and F2 the company may also have a consumption of substrate typed under point D1.**

Figure 9.3. Example of entering data for the size of the production for a company without printing and consumption of substrate.

F. Production data for companies without printing			Describe where data come from
1.	State data for the production size if there is no substrate consumption	<input type="text"/>	2000000
		Kim Jensen	<input type="text"/>
			Financial account
2.	State the unit for the production size, e.g. production hours, turnover, etc.	<input type="text"/>	turnover unit
<p><b>NOTICE: Do not type data in F1 and F2, if the company has printery and a substrate consumption. Data in F1 and F2 are used for calculation of key figures in the CARBON ACCOUNT as an alternative to a substrate consumption.</b></p>			

## 10 Tab: Input employees

NOTE: This tab is not available in ClimateCalc Basic.

The company must make a calculation of the commute of the employees to and from work. All data must be stated as the total of the previous calendar year or of the company’s latest financial year. For all entered data, it must be indicated who is responsible for the data and where it originates from.

For calculating the commute of the employees to and from work, two methods have been developed:

### 10.1 Standard calculation (paragraph H)

A method for standard calculation has been developed in ClimateCalc, which makes it easy for the company to make a quick calculation of the impact of the employee’s commuting to and from work. The standard calculation is based on generic data for the emission of greenhouse gases from different modes of transportation.

When using the standard calculation, the company must make a qualified and conservative estimate of the used modes of transportation, distances, and the number of working days for the employee’s commuting to and from work. In the verification process, the company must be able to account for the basis of the estimate.

#### NOTICE

The consumption of fuel of employees with a company car is entered on the tab: “Input company” under paragraph B.

If the standard calculation shows that employee’s commuting to and from work accounts for **more than 5%** of the company’s total greenhouse gas emissions (See tab “Carbon account”), a detailed calculation should be made, possibly via paragraph I: “Own calculation”.

Figure 10.1. Example of entering employee commuting via standard calculation.

H. Standard calculation of fuel consumption by employee commuting to and from work						
Means of transport	Number of employees	Average distance per employee per day (both ways)	Average number of working days per employee per year	Calculated amount of fuel per year		Describe where data come from
1. Employees with company car	<input type="text" value="5"/> persons					
2. Transportation petrol car	<input type="text" value="43"/> persons	<input type="text" value="32"/> Km	<input type="text" value="220"/> days	13636 litre petrol	<input type="text" value="Dorte Andersen"/>	<input type="text" value="Estimated: Dorte anc"/>
3. Transportation diesel car	<input type="text" value="1"/> persons	<input type="text" value="41"/> Km	<input type="text" value="220"/> days	333 litre diesel	<input type="text" value="Dorte Andersen"/>	<input type="text" value="Estimated: Dorte anc"/>
4. Transportation scooter	<input type="text" value="1"/> persons	<input type="text" value="20"/> Km	<input type="text" value="220"/> days	242 litre petrol	<input type="text" value="Dorte Andersen"/>	<input type="text" value="Estimated: Dorte anc"/>
5. Transportation motor cycle	<input type="text" value="2"/> persons	<input type="text" value="10"/> Km	<input type="text" value="220"/> days	263 litre petrol	<input type="text" value="Dorte Andersen"/>	<input type="text" value="Estimated: Dorte anc"/>
6. Transportation bicycle/walking	<input type="text" value="5"/> persons				<input type="text" value="Dorte Andersen"/>	<input type="text" value="Estimated: Dorte anc"/>
7. Public transportation	<input type="text" value="2"/> persons	<input type="text" value="30"/> Km	<input type="text" value="220"/> days	608 kg CO2 eq	<input type="text" value="Dorte Andersen"/>	<input type="text" value="Estimated: Dorte anc"/>
Number of employees		59 / 59				

### 10.2 Own calculation (paragraph I)

In the own calculation form, the company has the option to enter detailed information about the consumption of fuel in the form of petrol, diesel or “other fuel”. If data is entered about other fuel, the specific data about the fuel used must be entered on the tab: “Emission calculation”.

On the own calculation tab, it is possible to directly enter the greenhouse gas emissions for public transportation. This can be calculated via other transportation models.

For all data, which is entered in the form “Own calculation”, an account or other documentation must be available, showing the background for the data used.

## 11 Tab: Input substrate

On this tab, the company must enter carbon data of the substrate qualities used. The entered data on the different substrate qualities are included in the carbon account as weighted averages. When product calculations are made, it is a prerequisite that data for the substrate qualities used is entered under “Input substrate”.

### 11.1 Entering data from the substrate suppliers

By using the button “+ Add substrate” it is possible to enter data for a new substrate quality. The functionalities related to the button “CSV menu” are described at the bottom of this section.

Figure 11.1. Module for administration of data for entered and new substrate qualities.

Data of the substrate qualities can be requested from the substrate suppliers. For this purpose, the letter templates can be used.

#### TOOL

Letter templates to the substrate suppliers can be download from: [www.climatecalc.eu](http://www.climatecalc.eu) on subpage “Calculation and tools”.

### 11.2 The share of substrate data to be entered <sup>NEW</sup>

For the share of the company’s substrate purchases, when no substrate data is entered, Cli-mate-Calc calculates with worst-case data for paper in the carbon account for both production and transportation of substrate to the company. Therefore, it is important to enter data for most of the company’s substrate purchases according to the description below:

- If the company is **only using paper substrate** it is recommended that substrate data is entered for **at least 50 %** of the purchased substrate tonnage in the company.
- If the company is using **other substrate qualities than paper**, there must be entered carbon data for **100%** of the purchased non-paper substrate tonnage in the company. If data are not entered for the entire tonnage the calculator will automatically apply the worst-case data for paper which will not be representative for other substrate qualities.

Figure 11.2. The upper field of the tab shows the weighted average of the entered data and the share of substrate for which data is entered.

⚡ Calculated emission factors based on typed data in this sheet	
Calculated emission factors based on typed data in this sheet	
Emissions from production of substrate	415 kg CO <sub>2</sub> eq/t
Emissions from transportation of substrate	111 kg CO <sub>2</sub> eq/t
Typed data for part of total purchased substrate	89 %

### 11.3 Data on production of substrate (paragraph L) <sup>NEW</sup>

All substrate data is stated in “tons” with the abbreviation “t” used in fields such as “Annual purchased quantity (t)”.

Substrates can be entered into ClimateCalc in two different categories:

- Paper substrates
- Other substrates

#### Paper substrate

Two methods can be used when entering carbon data on production of paper substrate from the paper suppliers. It is preferred if the paper suppliers have reported data in accordance with the CEPI-method for Carbon Footprint calculation of paper products ([www.cepi.org](http://www.cepi.org)). This method is referred to as the “Ten Toes” and provides carbon data across 10 different parameters. It must be noted that ClimateCalc only includes data entered under parameters 3-7. When entering data for the other parameters, the data will be displayed in blue writing to indicate that it is not included.

Figure 11.3. Example of entering data based on the CEPI-method in section L. 1.

L. Data on production of substrate	
Emissions calculated on the basis of typed data in one of the following two ways	215 kg CO <sub>2</sub> eq/t
1. Data based on CEPI's method for estimation of Carbon Footprint in 10 parameters	
1. Carbon sequestration in forests:	<input type="text"/> kg CO <sub>2</sub> eq/t
2. Carbon stored in forest products:	<input type="text" value="1063"/> kg CO <sub>2</sub> eq/t
3. Greenhouse gas emissions from forest product manufacturing facilities:	<input type="text" value="95"/> kg CO <sub>2</sub> eq/t
4. Greenhouse gas emissions associated with producing fibre:	<input type="text" value="5"/> kg CO <sub>2</sub> eq/t
5. Greenhouse gas emissions associated with producing other raw materials/fuels:	<input type="text"/> kg CO <sub>2</sub> eq/t
6. Greenhouse gas emissions associated with purchased electricity, steam etc.:	<input type="text" value="90"/> kg CO <sub>2</sub> eq/t
7. Transport-related greenhouse gas emissions:	<input type="text" value="25"/> kg CO <sub>2</sub> eq/t
8. Emissions associated with product use:	<input type="text"/> kg CO <sub>2</sub> eq/t
9. Emissions associated with product end-of-life:	<input type="text"/> kg CO <sub>2</sub> eq/t
10. Avoided emissions and offsets:	<input type="text"/> kg CO <sub>2</sub> eq/t
Period of validity for typed data:	<input type="text" value="Declaration from supplier"/>

Instead of using the CEPI-method, the company can use data from the paper suppliers’ PaperProfiles. The information on the paper suppliers’ PaperProfiles is not as accurate as the CEPI-method, and therefore PaperProfile data must only be used if data cannot be obtained in accordance with the CEPI- method from the paper suppliers. The following data must be entered from PaperProfiles:

- CO<sub>2</sub> (fossil)
- Purchased electricity consumption
- The country, where the substrate factory is placed, must be selected from the drop-down menu.

Figure 11.4. Example of entering data based on PaperProfile in section L.2.

2. Data based on Paper Profiles	
CO2 (fossil):	<input type="text" value="250"/> kg CO <sub>2</sub> /t
Purchased electricity consumption:	<input type="text" value="280"/> kWh/t
State the country, where the paper factory is situated in the dropdown menu:	<input type="text" value="Finland"/>
Period of validity for typed data:	<input type="text" value="Declaration from supplier"/>

**Other substrates** <sup>NEW</sup>

Data for other substrates than paper must be entered in section L.3 “Data based on other sources”.

Figure 11.5. Example of entering data based on other sources in section L.3.

3. Data based on other sources	
CO2 (fossil)	<input type="text" value="1950"/> kg CO <sub>2</sub> /t
Data source	<input type="text" value="Declaration from supplier"/>

**11.4 Data on transportation of substrate (paragraph M)**

Two methods can be used when entering data for transportation of substrate from the substrate suppliers to the company. It is preferred, if the substrate suppliers have provided specific data for the greenhouse gas emissions from the transportation of the substrate from the substrate factory to the company. This can be done, for instance, by the supplier completing the form, which is part of the above tool (letter template and form). Only data on greenhouse gas emissions from the combustion of fuels needs to be entered. The upstream emissions from production of the fuels are automatically added in ClimateCalc.

An alternative to using data from the substrate suppliers is to enter the distance between the substrate factory and the wholesaler, as well as the distance between the wholesaler and the company. When entering distance data, ClimateCalc uses generic data for transportation of goods by truck. Therefore, it is always preferable to use specific data on the greenhouse gas emissions provided directly by the substrate supplier.

Figure 11.6. Example of entering data based on distance.

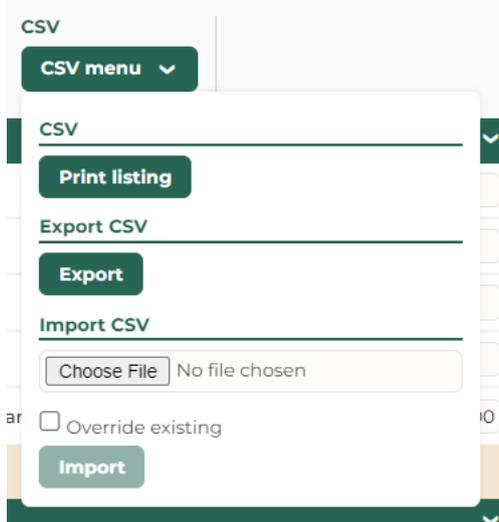
M. Data on transportation of substrate	
Emissions calculated on the basis of typed data in one of the following two ways	179 kg CO <sub>2</sub> eq/t
<b>1. Data reported by the supplier (only emissions from burning of fuel)</b>	
1. Type the emissionens from transportation of substrate (only direct emissions)	<input type="text"/> kg CO <sub>2</sub> /t
Date or period of validity for typed data:	<input type="text"/>
<b>2. Own information about distance</b>	
Distance for transportation of substrate from factory to wholesaler or directly to company	<input type="text" value="1870"/> km
Distance for transportation of substrate from wholesaler to company	<input type="text" value="95"/> km

## 11.5 CSV menu for printing and export and import <sup>NEW</sup>

The CSV menu in the top section has two options:

- Print listing
- Export / Import

Figure 11.7. CSV menu with the option to “Print listing” and “Export” / “Import”.



### Print listing

By clicking the “Print listing” a CSV file can be downloaded with an overview of all the substrates and the CO<sub>2</sub>-emission related to the production and transportation of the substrates. The CSV file can be customized in Excel after downloading.

### Export / Import

In the Export/Import section the company can export a CSV file containing all the data entered on the tab: Input substrate. After updating the data in the CSV file, it can be uploaded, and all the data imported again.

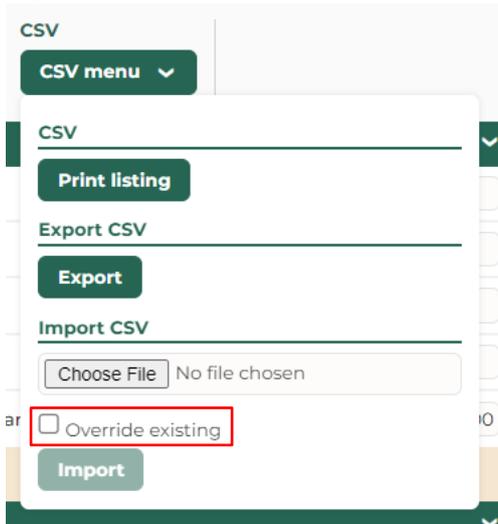
#### **NOTICE**

**It is recommended to save the downloaded CSV file as a backup file and make all changes of the data in a copy of the original file. This makes it possible to restore the original data if mistakes are made during the update.**

#### **NOTICE**

**If there are no tick mark in “Override existing” the data will not be updated and all substrate data will be imported as a copy of the existing substrates.**

Figure 11.8. CSV menu with the option to tick-mark for “Override existing” before import.



When updating data in the CSV-file and importing the data, please note that for all substrates there must be **valid data** in the **column T “Country”** in the CSV-file. The data are valid when:

- The name of the country must be in English
- The country must be available as a country in section L.2 (Data based on PaperProfiles).
- If section L.2 is not relevant the country must always be defined as “None”.

If data in column T “Country” isn’t valid the system will not accept the CSV-file for upload.

The best way to ensure valid data input for a new substrate in the CSV-file is to make a copy of an existing substrate quality and customize it afterwards.

## 11.6 Sharing of substrate data in multi-site organisations <sup>NEW</sup>

If the company is part of a multi-site organisation it is possible to share the substrate data between the different sites in the organisation. Please refer to section 20 in this document for a description of how the substrate data can be shared in a multi-site organisation.

## 12 Tab: Input purchased transportation

NOTE: This tab is not available in ClimateCalc Basic

On this tab, the company must enter data for the transportation of products between the company and possible sub suppliers, as well as data for transportation of products to the customer.

Transportation of products to the customer is in ClimateCalc defined as:

**”Transportation of products to the first delivery address”.**

This boundary is defined in the international standards for calculation of carbon emission of print production on which ClimateCalc is based. Please refer to [www.climatecalc.eu](http://www.climatecalc.eu) on subpage “Standards and data” for a further explanation of this.

The customer’s further transportation of the product, as well as any transportation via distribution companies and postal services is not included in ClimateCalc.

To calculate the purchased transportation, two methods have been developed:

### 12.1 Standard calculation

A method for standard calculation has been developed in ClimateCalc, which makes it easy for the company to quickly assess the impact of purchased transportation. The standard calculation is based on generic data for greenhouse gas emissions from transportation of goods.

When using the standard calculation, the company must make a qualified and conservative estimate of the annually transported quantity and the average distance divided across vehicles of different sizes. In the verification process, the company must be able to account for the basis of the estimate.

Figure 12.1 Example of entering data via standard calculation.

T. Transportation of products to customers			
Standard calculation - Annual amount of transported products			Describe where data come from
1.	Lorry 3.5-16 ton (fleet average)	<input type="text" value="3233260"/> kg	Tom Hansen <input type="text" value="Invoices and estimated distar"/>
	Average distance of transported products	<input type="text" value="200"/> Km	Tom Hansen <input type="text" value="Invoices and estimated distar"/>
2.	Lorry 16-32 ton (fleet average)	<input type="text" value="3145890"/> kg	Tom Hansen <input type="text" value="Invoices and estimated distar"/>
	Average distance of transported products	<input type="text" value="200"/> Km	Tom Hansen <input type="text" value="Invoices and estimated distar"/>
3.	Lorry >32 ton (fleet average)	<input type="text"/> kg	-- responsibility -- <input type="text"/>
	Average distance of transported products	<input type="text"/> Km	-- responsibility -- <input type="text"/>
Total calculated quantity of delivered printed matters (Carbon account):		5692290 kg	

### 12.2 Own calculation

In “own calculation”-form, the company has the option to enter detailed information about fuel consumption such as petrol, diesel, bottled gas, electricity or “other fuel”. If data is entered for “other fuel”, specific data about the used fuel must be entered under the tab: “Emission calculation”.

In addition, under “own calculation” there is also the option to enter the emissions of greenhouse gases directly. This can be calculated by using other transportation models.

For all data entered under “own calculation”, an account or other documentation must be available, which shows the basis for the data used.

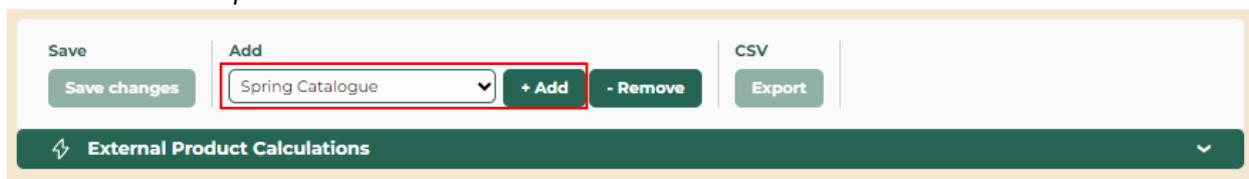
### 13 Tab: Outsourcing <sup>NEW</sup>

*NOTE: Some functionalities on this tab are not available in ClimateCalc Basic.*

If a company has outsourcing activities that involves a ClimateCalc certified contractor, it is possible to request the contractor to share product calculations with the company which then will be listed on the tab: Outsourcing. This tab is only visible if product calculations has been shared with the company.

All the shared product calculations will be listed in the dropdown menu in the top section and the company can choose to allocate the relevant product calculations to their own carbon account by clicking "+ Add".

*Figure 13.1. Top section on the tab: Outsourcing where the shared product calculations can be selected and added from the drop-down menu.*



If product calculations have been shared, and they are no longer relevant, they can be removed from the list in the drop-down menu by clicking "- Remove".

After allocating the shared product calculation, it is an option to enter data for the "Yearly purchased amount" of the specific product and the shared product calculation can be assigned an "Internal name".

Figure 13.2 Example of list of two shared product calculations with data entered for the “Yearly purchased amount” and assignment of an internal name.

The screenshot shows the ClimateCalc interface with a sidebar on the left containing navigation options like Carbon account, Product calculation, Development, Benchmark, Company information, Input company, Input employees, Input substrate, Input purchased transportation, Outsourcing (highlighted), Emission calculation, Labels, and User Settings. The main content area displays a table titled 'External Product Calculations' with the following data:

Product	Spring Catalogue	Leaflet 4+4 48 p.
Internal name	<input type="text"/>	<input type="text" value="Leaflet 4+4 48 p."/>
Yearly purchased amount	<input type="text" value="2000"/> kg	<input type="text" value="1000"/> kg
Comments	<input type="text"/>	<input type="text"/>
Calculated yearly	2680 kg CO <sub>2</sub> eq	1771 kg CO <sub>2</sub> eq
Calculated yearly	0,893 kg CO <sub>2</sub> eq /kg	0,885 kg CO <sub>2</sub> eq /kg
Supplier and product		
Supplier	TRAINING CONTRACTOR	TRAINING CONTRACTOR
Certificate number:	CC-100007/BE	CC-100007/BE
Customer:	Web shop	Web shop
Product name:	Spring Catalogue	Leaflet
Order number:	1212027	111314
Responsible for the calculation:	Kim Johnson	Kim Johnson
Calculated	27-08-2023 17:13:54	27-08-2023 17:16:32
Total weight of materials to the customer	1036 kg	443 kg
Result		
Production of substrate	258 kg CO <sub>2</sub> eq	158 kg CO <sub>2</sub> eq
Transportation of substrate to the company	214 kg CO <sub>2</sub> eq	70 kg CO <sub>2</sub> eq
Production of ink and varnish	161 kg CO <sub>2</sub> eq	66 kg CO <sub>2</sub> eq
Production of packing	18 kg CO <sub>2</sub> eq	7 kg CO <sub>2</sub> eq
Work of subsupplier	0 kg CO <sub>2</sub> eq	0 kg CO <sub>2</sub> eq
Transportation to the customer	33 kg CO <sub>2</sub> eq	4 kg CO <sub>2</sub> eq
Company related emissions	188 kg CO <sub>2</sub> eq	78 kg CO <sub>2</sub> eq
Other emissions	46 kg CO <sub>2</sub> eq	20 kg CO <sub>2</sub> eq
Total emissions	918 kg CO <sub>2</sub> eq	403 kg CO <sub>2</sub> eq

A shared product calculation cannot be removed if “Yearly purchased amount” or “Internal name” has been entered or the share product calculation is used in one of the company’s own product calculations.

### 13.1 Outsourcing in the carbon account <sup>NEW</sup>

When entering data of “Yearly purchased amount”. The emission related to the outsourcing will be included on the tab “Carbon Account” as a separate row in scope 3: “External production”. It will also be visible on the tab: “Emission calculation” in paragraph O.

### 13.2 Outsourcing in product calculation <sup>NEW</sup>

The shared product calculations allocated on the tab: “Outsourcing” will all be available on the tab: “Product calculation” in the section “Work of sub suppliers”. The weight of the outsourced product must be entered, when including shared product calculations in the company’s own product calculations.

Figure 13.3 Example of using a shared product calculation in the company's own product calculation.

⚡
Work of subsuppliers

+ Add
- Remove

---

State the name of the used subsuppliers: **Supplier 1**

Training Contractor

**Choose data for external production**

Choose product: Leaflet 4+4 48 p. ▼

Weight of product: 500 kg

Comments: Spring production

**State the subsupplier's emissions**

State the emissions from the subsupplier's work on the order:   kg CO<sub>2</sub> eq

State where to find the documentation from the subsupplier:  

---

**State transportation to and from the sub supplier in one of the two following ways**

Standard calculation: Transported amount and distance:   kg   km

Choose the size of the truck in the dropdown menu (load weight):   ▼

Own calculation: Emission calculated via transportation model:   kg CO<sub>2</sub> eq

Describe where data come from:  

### 13.3 Sharing of product calculations by the contractor <sup>NEW</sup>

A contractor that wants to share a product calculation with other companies using ClimateCalc must do the following:

1. Define the companies that are eligible to receive shared product calculations in the administration module of ClimateCalc. Notice that it requires a certain user permission to manage the sharing of product calculations in the administration module. Please refer to section 19.4 in this document.
2. The specific product calculation must be marked as shared on the tab: "Product calculation". The companies that are eligible to receive shared product calculations will be listed at the bottom of the tab: "Product calculation" where they can be tick marked. Notice that it requires a certain user permission to share specific product calculations. Please refer to section 19.1 in this document.

## 14 Tab: Emission calculation

*NOTE: This tab is not available in ClimateCalc Basic.*

On the tab “Emission calculation”, ClimateCalc makes detailed calculations of greenhouse gas emissions based on data entered in the input tabs. The company only needs to focus on the tab “Emission calculation” if the company wishes to see the results of the detailed calculations or if it has its own data in the form of specific emission factors. If the company uses printing ink or other materials without default data in the calculator, these must be entered in the calculator as well as on the tab “Emission calculation”.

### 14.1 Detailed calculations

Data entered in the input tabs is automatically converted into greenhouse gas emissions using standard emission factors, which state the emission of CO<sub>2</sub> equivalents per unit. For instance, the standard emission factor can be “CO<sub>2</sub> eq/kg printing ink” or “CO<sub>2</sub> eq/kWh electricity”.

In addition to converting to CO<sub>2</sub> equivalents, an automatic allocation of emissions into Scope 1, Scope 2, and Scope 3 is done in accordance with the guidelines in The Greenhouse Gas Protocol. For a more detailed definition of the different scopes, we refer to section 15 in this document and [www.climatecalc.eu](http://www.climatecalc.eu) on subpage “Standards and data”.

Through the detailed calculations, it is possible to see how the emissions of, for instance, purchased diesel are divided among the emissions from diesel combustion and the emissions from production of diesel.

### 14.2 Specific emission factors

If the company has specific emission factors from energy sources or raw materials used, these can be entered under “Specific emission factors”. If specific emission factors are entered, ClimateCalc will use these data instead of the default emission factor. When entering specific emission factors, the origin of the data and the person responsible for the data must be stated.

If the input tabs indicate consumption of “other fuel”, electricity, district heating, or printing plates that are different from the default options in the tool, **specific data must be entered** in the form of emission factors and, in some cases, heating values.

### 14.3 Upstream emissions

The term “upstream” is used in connection with several parameters. “Upstream” refers to when emission factors include other emissions besides direct emissions from fuel combustion or raw material production. Upstream emissions are for example indirect emissions from production and transportation of fuels and materials.

## 15 Tab: Carbon account

The company's carbon account is automatically generated based on the entered data from the input tabs and, if applicable, own data from the tab "Emission calculation". The carbon account is divided into different sections, which are briefly described below.

### 15.1 Key figures for greenhouse gas emissions

In the green section to the right, the most important numbers and key figures for the carbon account are presented, aiming to facilitate the company's year-to-year performance comparison. This section includes data for:

- Total amount of delivered printed products
- Waste substrate percentage
- Total greenhouse gas emissions (Scope 1+2+3)
- Total energy consumption (Scope 1 + 2)
- Key figures of total emissions (Scope 1+2+3) per ton of printed product
- Key figures of total energy consumption (Scope 1 + 2) per ton of printed product

#### NOTICE

The above parameters will change if the company has entered data regarding the production size under "Input company", paragraph F.

### 15.2 Direct and indirect emissions – Scope 1, Scope 2, and Scope 3

At the bottom section of the carbon account, both the direct and indirect emissions are specified by dividing them into Scope 1, Scope 2, and Scope 3, as described in The Greenhouse Gas Protocol:

- Scope 1: Direct emissions of greenhouse gases from the company, such as combustion of oil or gas in own boilers or vehicles.
- Scope 2: Indirect emissions of greenhouse gases from production of purchased energy, such as electricity and district heating.
- Scope 3: Other indirect emissions of greenhouse gases, such as production of raw materials, purchased transportation services, and the employee commuting.

For further information we refer to [www.climatecalc.eu](http://www.climatecalc.eu) on subpage "Standards and data".

### 15.3 Company- and product-related emissions

In addition to the division into Scope 1, 2, and 3, the carbon account is further divided into *company-related emissions* and *product-related emissions*. This division of emissions reflects whether customers have a real influence on the size of the emissions or not. The emissions categorized as product-related can be customized according to the specific requirements of each order under the tab: "Product calculation". For example, the choice of substrate quality for a specific order will significantly impact the final greenhouse gas emissions of the product.

This division is defined in the international standards for calculation of carbon emission of print production on which ClimateCalc is based. Please refer to [www.climatecalc.eu](http://www.climatecalc.eu) on subpage "Standards and data" for a further explanation of this.

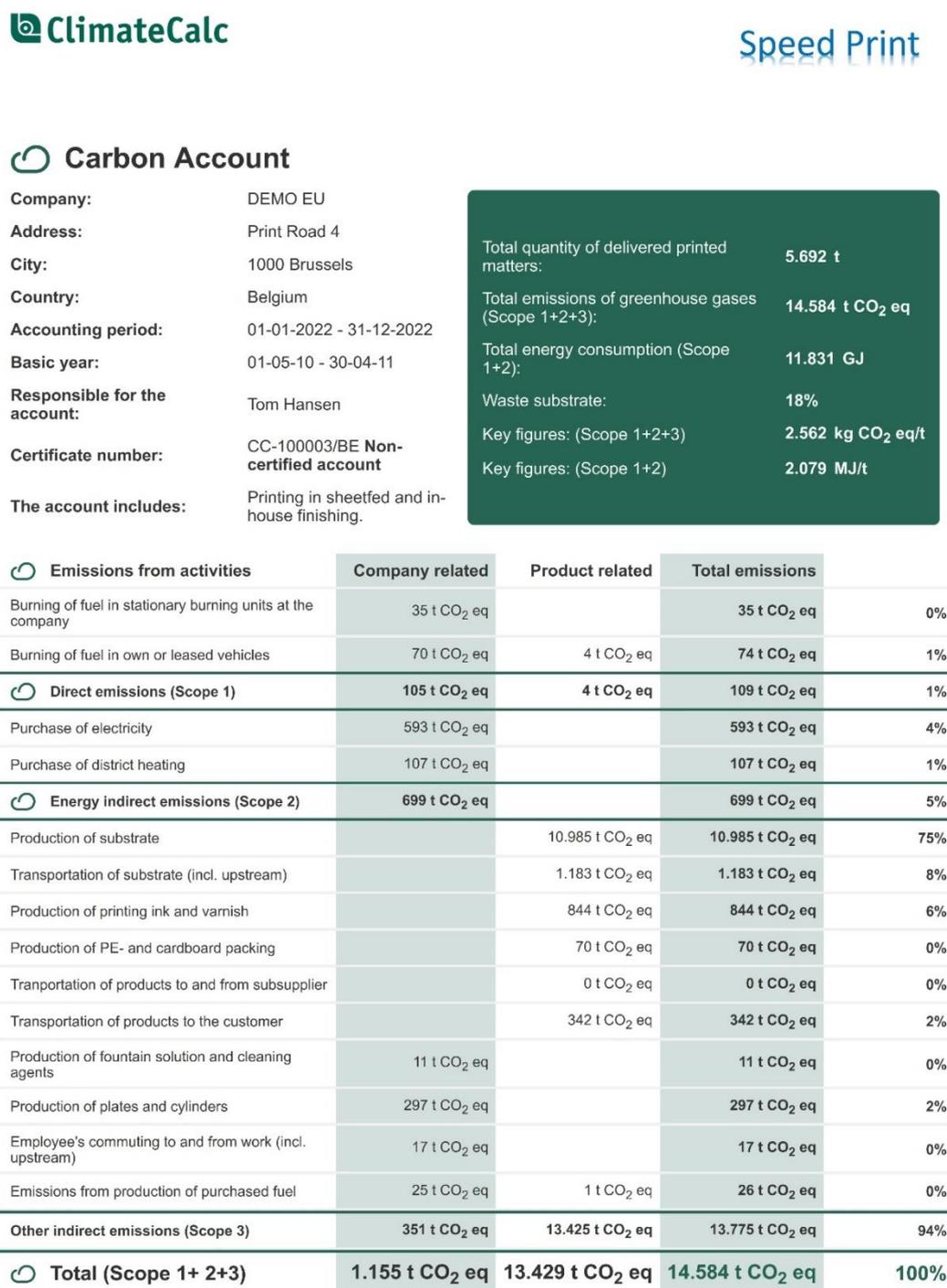
## 15.4 Compare data with previous year <sup>NEW</sup>

In the top section on the tab there is an option for tick marking to show data for both the current account and the previous carbon account. The data for the previous year will be presented in yellow.

## 15.5 Presentation of the carbon account <sup>NEW</sup>

In the top section on the tab there is an option for downloading a pdf print of the carbon account. If a company logo has been uploaded on the tab “Company information” it will automatically be presented in the pdf file. Please refer to section 8.3 in this document.

Figure 15.1. Example of a pdf print of the carbon account with company logo for the company “Speed Print”.



## 16 Tab: Product calculation

NOTE: Some functionalities on this tab are not available in ClimateCalc Basic.

Under this tab, the company has the option to calculate the carbon impact of producing specific products. The product calculation tab is locked until the company has been certified.

### NOTICE

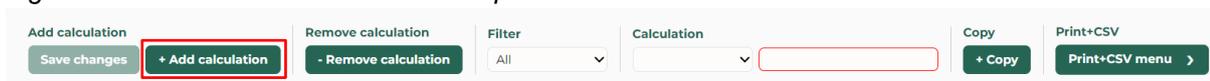
If there are missing or erroneous information in a product calculation, it will be indicated by text or arrows marked in RED. In case of significant errors in the product calculation, the calculator reports errors in the result field in the green top section. The product calculation cannot be completed until the error has been corrected.

### 16.1 Administration of product calculations <sup>NEW</sup>

The product calculations are managed through the module located in the top section. To create a new product calculation, follow these steps:

1. Click on the button “+ Add calculation”.
2. Name the product calculation in the text field.
3. Click on the button “Save changes” if Auto-save is not enabled. Please refer to section 5 in this document,

Figure 16.1. Module for administration of product calculations.



As an alternative to create a new product calculation, from scratch it is possible to select an existing product calculation and click the button “+ Copy”. After copy, the product calculation must be named and saved as described above.

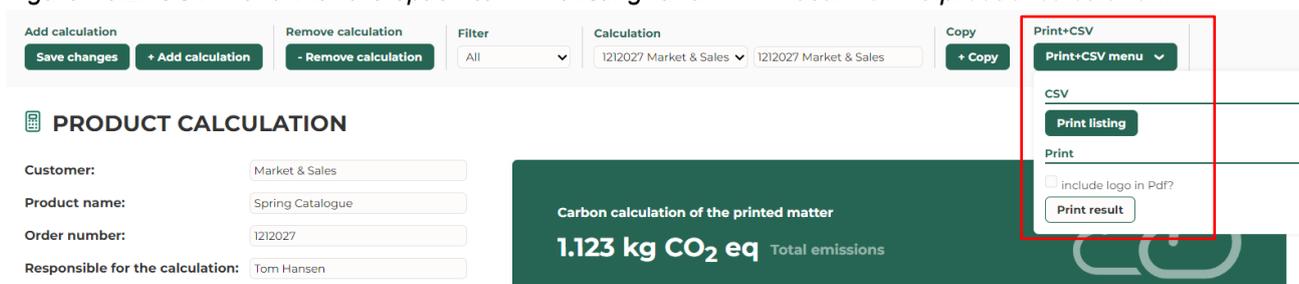
If the user logged in has the permission to view the product calculations of all users, it will be possible to use the Filter-functionality in the top section. Please refer to section 19.1 “Administration” in this document for customizing user permissions.

### 16.2 CSV menu for printing and export <sup>NEW</sup>

The CSV menu in the top section has two options:

- Print listing
- Print result

Figure 16.2. CSV menu with the option to “Print listing” and “Print result” of the product calculation.



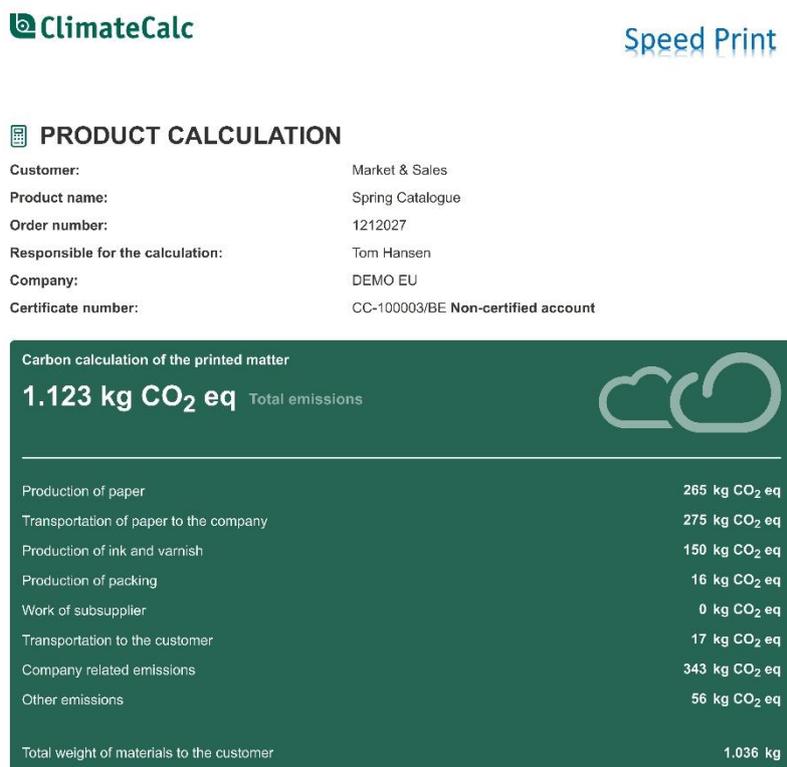
### Print listing

By clicking the “Print listing” a CSV file can be downloaded with an overview of all the product calculations. The CSV file can be customized in Excel after downloading.

### Print result

By clicking the “Print result” a pdf-file can be downloaded showing the result of the individual product calculation. If a company logo has been uploaded on the tab “Company information” it will be an option to include the company logo in the pdf-file by tick marking in the CSV menu. Please refer to section 8.3 in this document.

Figure 16.3. Example of a pdf print of a product calculation with company logo for the company “Speed Print”.



## 16.3 About the order

In making a product calculation, the following information about the order must always be provided:

- Customer
- Product name
- Order number
- Person responsible for the calculation

## 16.4 Substrate consumption

In the substrate consumption section, the qualities included in the specific order are selected. Please note that only the default data for paper (worst case) and the substrate qualities entered under the tab: “Input substrate” can be selected.

In addition to the substrate quality, the substrate consumption, and the amount of substrate in the finished product must be stated. This can be done either by a weight calculation or by a sheet calculation.

**NOTICE**

**For each substrate quality, data should only be entered in either weight or sheets. If data is entered in both categories, the calculator will return an error.**

Weight calculation

A weight calculation is done by entering two out of three of the following pieces of information for each substrate quality:

- Substrate consumption for the order
- Amount of substrate in the finished product
- Substrate waste percentage (waste substrate / purchased substrate)

Sheet calculation

A sheet calculation is done by entering the following information for each substrate quality:

- Substrate size
- Grammage
- Consumption of sheets for the order
- Substrate waste percentage (waste substrate / purchased substrate)

For the product calculation, ClimateCalc automatically suggests an average substrate waste percentage based on the information entered under the tab “Input company”. For each order, it should be considered whether the specific waste percentage differs from the average. If so, the actual data for the product must be used.

Figure 16.4. Example of entering substrate data in product calculation. Notice that the average substrate waste from the company’s carbon account is stated in italic.

☰
**Substrate consumption**

+ Add
- Remove

---

**Substrate quality 1**

State the used substrate qualities in the dropdown menu: Speed silk ▼

*Substrate data is typed on the sheet: Input substrate*

**Weight calculation: State at least two data of substrate consumption mentioned below**

Consumption of substrate for the order:	<input style="width: 80%;" type="text" value="0"/> kg	<b>0 kg</b>
Amount of substrate in the finished product:	<input style="width: 80%;" type="text" value="0"/> kg	<b>0 kg</b>
Substrate waste (waste substrate/purchased substrate):	<input style="width: 80%;" type="text" value="0"/> %	<b>0 kg</b>

*The carbon calculator's substrate waste/purchased substrate (average):* 18 %

**Sheet calculation: State all data of substrate consumption mentioned below**

Substrate format:	<input style="width: 80%;" type="text" value="720"/> mm	
Substrate format:	<input style="width: 80%;" type="text" value="1040"/> mm	
Grammage:	<input style="width: 80%;" type="text" value="200"/> g/m <sup>2</sup>	
Consumption of sheets for the order:	<input style="width: 80%;" type="text" value="8000"/>	<b>1198 kg</b>
Substrate waste (waste substrate/purchased substrate):	<input style="width: 80%;" type="text" value="21"/> %	<b>252 kg</b>

*The carbon calculator's substrate waste/purchased substrate (average):* 18 %

Describe where data come from:

## 16.5 Companies without printing

For companies that have selected a different reference for the size of the production than the amount of purchased substrate, the order size is stated using the same unit as entered on the tab: "Input company", paragraph F.

### NOTICE

**When performing product calculation for companies with no in-house substrate consumption, it is necessary to determine the product weight based on the weight of the pallet load, as the product weight in such cases will not automatically be calculated under the section "Transportation of products to the customer". The weight of the product must then be stated with the weight of the pallets.**

## 16.6 Consumption of printing ink, varnish and packing

The consumption of printing ink, varnish, and packing must be stated for the specific product. During the product calculation, ClimateCalc automatically suggests an average consumption based on the information provided under the tab "Input company". For each order, it should be considered, whether the consumption for the specific product differs from the average. If so, the actual data for the product must be used.

### NOTICE

**If it has been chosen to hide some printing techniques under the tab "Company information" this will cause for the parameters for this printing technique to be hidden under the tab "Product calculation".**

The entered consumption of packing on the order must include all packing made of cardboard and plastic supplied to the order, and not only transportation packing.

## 16.7 Sub-suppliers' work

Sub-supplier's work as well as transportation between the company and sub-supplier must be calculated and included in the product calculation. Therefore, the company must communicate with the sub-supplier and request information on the amount of greenhouse gas emissions caused by the work of the order.

### NOTICE

**It must be clarified to the sub-supplier whether their calculation of emissions should include transportation to and from the sub-supplier as well as possible transportation to the customer.**

### NOTICE

**Data from sub-suppliers must cover the same parameters that are typically included in the ClimateCalc calculation tool. The parameters are specified in the standards on which the ClimateCalc calculation tool is based. For further information, please refer to [www.climate-calc.eu](http://www.climate-calc.eu) and the subpage "Standards and data".**

When communicating with the sub-supplier, the developed letter template can be used.

**TOOL**

Letter template to sub-supplier. Download: [www.climatecalc.eu](http://www.climatecalc.eu) on subpage “Calculation and tools”.

Emissions related to transportation of the products between the company and the sub-suppliers must be calculated and included in the product calculation for the specific order. This can either be done by a standard calculation or an “own calculation”. Please refer to section 12 in this document for further clarification on this.

Figure 16.5. Example of entering data for sub-supplier work in product calculation and transportation between company and sub-supplier.

**16.8 Outsourcing in product calculation <sup>NEW</sup>**

If the company has outsourcing activities that involves a ClimateCalc certified contractor and the contractor has shared product calculations with the company, it is possible for the company to use the shared product calculation in the company’s own product calculations.

The shared product calculations will be available in the section “Work of sub suppliers”. The weight of the outsourced product must be entered when including shared product calculations in the company’s own product calculations. Please refer to section 13 in this document for further information on how shared product calculations can be use.

**16.9 Transportation of products to the customer <sup>NEW</sup>**

The transport related emissions of products to the customer must be calculated and included in the product calculation for the specific order. ClimateCalc performs a theoretical calculation of the weight of the product based on the weight of paper, inks and packing added to the product in-house. The weight of pallets and other transportation materials, as well as any paper waste and supplied packing at the sub-suppliers must be entered manually.

For a detailed explanation, please refer to section 12 in this document, where the transportation to the customer must be calculated.

**NOTICE**

**Error will be reported in the transportation calculation if transportation data is entered for a tonnage that is less than the calculated tonnage of the product.**

In the transport section the company can choose to copy the calculated weight directly to transport calculation by clicking: **[copy]**.

To enter the transported distance, two methods are available:

- Enter the delivery address and press the button “**Validate**”.
- Enter the distance manually.

It is also an option to enter data calculated by the company itself under “Own calculation”.

*Figure 16.6. Example of entering data for transportation of products to the customer. The option of copying the weight and enter the delivery address is marked with red boxes.*

Tranportation of products to the customer			
Calculated weight of the printed matter (in-house added material):	22425 kg		
Calculated weight of the packing (in-house added material):	62 kg		
State the weight of pallets:	<input type="text" value="1025"/> kg	Data come from:	<input type="text" value="Order data"/>
State any adjustment of added packing at the subsuppliers:	<input type="text" value="50"/> kg	Data come from:	<input type="text" value="Mail European Bookbind"/>
<b>Total weight of materials to the customer</b>	<b>[copy]</b> 23561 kg	State transportation data for the total weight below	

+ Add		- Remove	
<b>State transportation to the customer in one of the two following ways</b>			
<b>Delivery 1</b>			
<input type="text" value="Rue Wiertz 60, 1047 Bruxelles, Belgien"/>		<b>Validate</b>	
Validated address will be displayed here...			
Standard calculation: Transported amount and distance:	<input type="text"/> kg	<input type="text"/> km	
Choose the size of the truck in the dropdown menu (load weight):	<input type="text" value="Lorry 16-32 ton (fleet average)"/> ▼		
Own calculation: Emission calculated via transportation model:	<input type="text"/> kg CO <sub>2</sub> eq		
Describe where data come from:	<input type="text"/>		

Figure 16.7. After copying the weight and validating the delivery address the transport calculation is completed.

Tranportation of products to the customer			
Calculated weight of the printed matter (in-house added material):	22425 kg		
Calculated weight of the packing (in-house added material):	62 kg		
State the weight of pallets:	<input type="text" value="1025"/> kg	Data come from:	<input type="text" value="Order data"/>
State any adjustment of added packing at the subsuppliers:	<input type="text" value="50"/> kg	Data come from:	<input type="text" value="Mail European Bookbind"/>
<b>Total weight of materials to the customer</b>	<b>[copy] 23561 kg</b>		

State transportation to the customer in one of the two following ways		+ Add	- Remove
<b>Delivery 1</b>			
<input type="text" value="Rue Wiertz 60, 1047 Bruxelles, Belgien"/>			<input type="button" value="Remove"/>
<input type="text" value="Rue Wiertz 60, 1047 Bruxelles, Belgique"/>			
Standard calculation: Transported amount and distance:	<input type="text" value="23561"/> kg	<input type="text" value="871,4"/> km	
Choose the size of the truck in the dropdown menu (load weight):	<input type="text" value="Lorry 16-32 ton (fleet average)"/> ▼		
Own calculation: Emission calculated via transportation model:	<input type="text" value=""/> kg CO <sub>2</sub> eq		
Describe where data come from:	<input type="text" value="Order data"/>		

## 16.10 Company-related emissions

Based on the stated substrate consumption of the order, the order is assigned a company-related emission, which represents the company's average emissions that cannot be attributed to individual products.

For a further explanation, please refer to section 15 in this document. If the company has no printing and no substrate consumption, the company related emissions are calculated based on the size of the order using the same unit as entered on the tab: "Input company", paragraph F.

## 16.11 Other emissions

ClimateCalc is based on international standards for calculation of carbon emission of print production. Please refer to [www.climatecalc.eu](http://www.climatecalc.eu) on subpage "Standards and data" for a further explanation of this. When calculating greenhouse gas emissions for the parameters included in ClimateCalc, a minimum 95% of the emissions in the defined scope will be included. To compensate for the unaccounted emissions, the product calculation has a supplement equivalent to the missing 5%.

## 16.12 Compensation

It is possible to mark an order as compensated and upload documentation for the purchased compensation. This can be done by tick marking for compensation next to the result at the top of the page.

Figure 16.8. Example of an order marked as compensated and where documentation for purchased compensation has been uploaded.

**PRODUCT CALCULATION**

Customer: Market & Sales

Product name: Spring Catalogue

Order number: 1212027

Responsible for the calculation: Tom Hansen

Certificate number: CC-100003/BE **Non-certified account**

Compensated

Last calculated by

Last calculated date: 07-09-2023

Compensated by

Compensated date: 07-09-2023

Compensation:

Vælg filer Certificate\_88808.pdf

[delete](#) Certificate\_88808.pdf

**Carbon calculation of the printed matter**

**1.123 kg CO<sub>2</sub> eq** Total emissions

Production of paper	265 kg CO <sub>2</sub> eq	Work of subsupplier	0 kg CO <sub>2</sub> eq
Transportation of paper to the company	275 kg CO <sub>2</sub> eq	Transportation to the customer	17 kg CO <sub>2</sub> eq
Production of ink and varnish	150 kg CO <sub>2</sub> eq	Company related emissions	343 kg CO <sub>2</sub> eq
Production of packing	16 kg CO <sub>2</sub> eq	Other emissions	56 kg CO <sub>2</sub> eq

## 16.13 Versions in the product calculations <sup>NEW</sup>

ClimateCalc saves the product calculations in versions every time a change is made in the source data of the company's carbon account. If for example the data for the used substrate is changed under the tab: Input substrate a warning in red is shown the next time the specific product calculation is opened. The user can then open the product calculation and then decide which version of the product calculation that must be saved as the valid product calculation.

Figure 16.9. Example of changes in the source data for the product calculation where it can be opened.

Sourcedata has changed. Do you want to open and recalculate? Open

**PRODUCT CALCULATION**

Customer: Web shop

Product name: Spring Catalogue

Order number: 1212027

Responsible for the calculation: Kim Johnson

Certificate number: **Non-certified account**

Compensated

Last calculated by: admin@grakom.dk

Last calculated date: 19-09-2023

When opened the user can see the different versions in the dropdown menu in the top and select and save the valid version.

Figure 16.10. Example of versions of product calculations available in the dropdown menu.



## PRODUCT CALCULATION

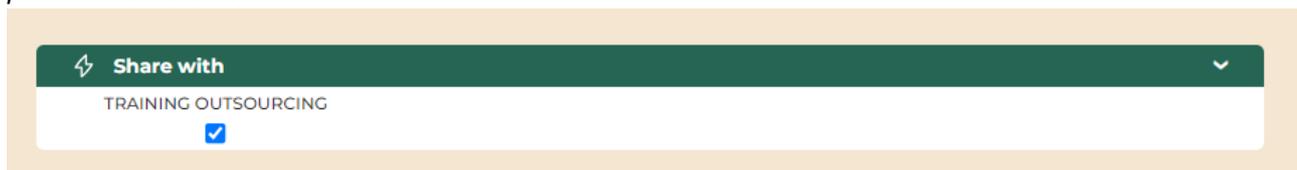
Customer:	<input type="text" value="Web shop"/>
Product name:	<input type="text" value="Spring Catalogue"/>
Order number:	<input type="text" value="1212027"/>
Responsible for the calculation:	<input type="text" value="Kim Johnson"/>
Certificate number:	<b>Non-certified account</b>
Compensated	<input type="checkbox"/>
Last calculated by	
Last calculated date	19-09-2023

### 16.14 Sharing of product calculations <sup>NEW</sup>

If the company has defined companies that are eligible to receive shared product calculations in the administration module of ClimateCalc, it will be possible to share product calculations with the defined companies. Please refer to section 19.4 in this document.

The companies eligible to receive shared product calculations will be listed at the bottom of the tab: "Product calculation" where they can be tick marked. Notice that it requires a certain user permission to share specific product calculations. Please refer to section 19.1 in this document.

Figure 16.11. Example of sharing a product calculation by tick marking the company at the bottom of the product calculation.



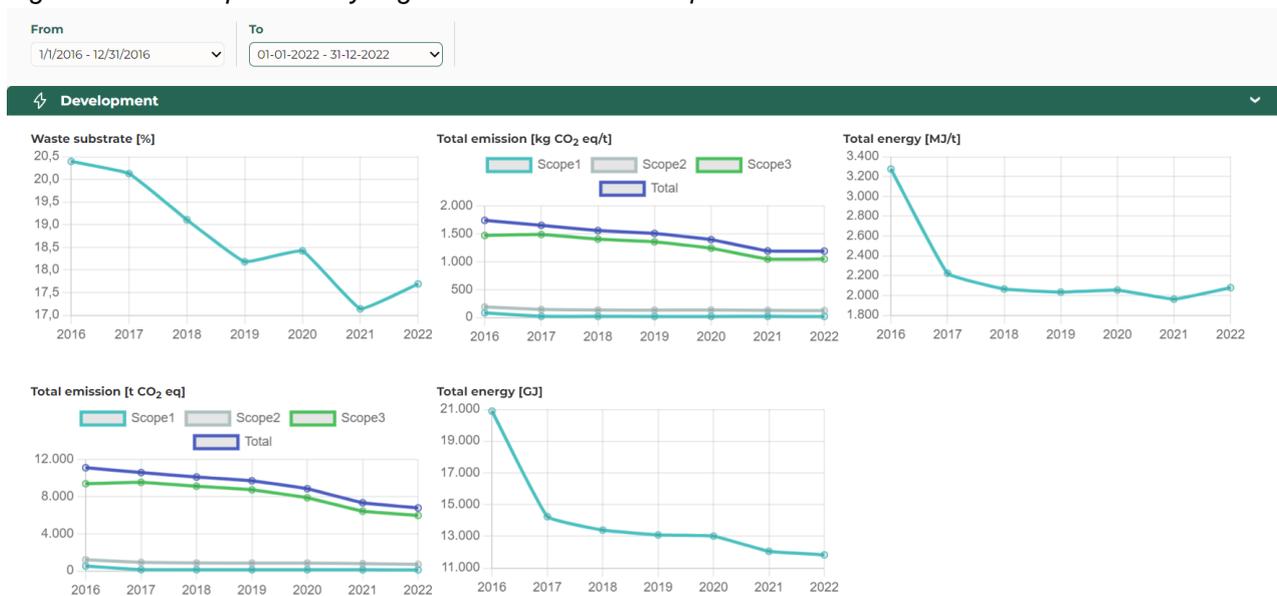
## 17 Tab: Development <sup>NEW</sup>

Under this tab, the company has the option to analyse the development of their key performance indicators from the carbon account for a defined period:

- Waste substrate [%]
- Total emissions of CO<sub>2</sub> per ton printed product [kg CO<sub>2</sub> eq/ton]
- Total energy consumption per ton printed product [MJ/ton]
- Total emissions of CO<sub>2</sub> [ton CO<sub>2</sub> eq]
- Total energy consumption [GJ]

Please refer to section 15 in this document for further details on these key performance indicators.

Figure 17.1. Example of analysing the KPI's for a defined period.



## 18 Tab: Benchmark

*NOTE: This tab is not available in ClimateCalc Basic*

Under this tab, the company has the option to benchmark its own performance on the carbon emissions. By comparing to the performance of other companies it becomes easier for the company to assess the potential for improvements. The tab for benchmark is locked, until the company has been certified.

### NOTICE

**All companies are anonymous in the benchmarking in ClimateCalc. A company cannot see the names of the other companies included in the selected benchmark. To ensure anonymity, benchmarking is only possible if there are at least four companies with the same profile in the selected benchmark analysis. Benchmark occurs across companies in all countries.**

Benchmarking is based on the company's key performance indicators included in the carbon account for the selected period:

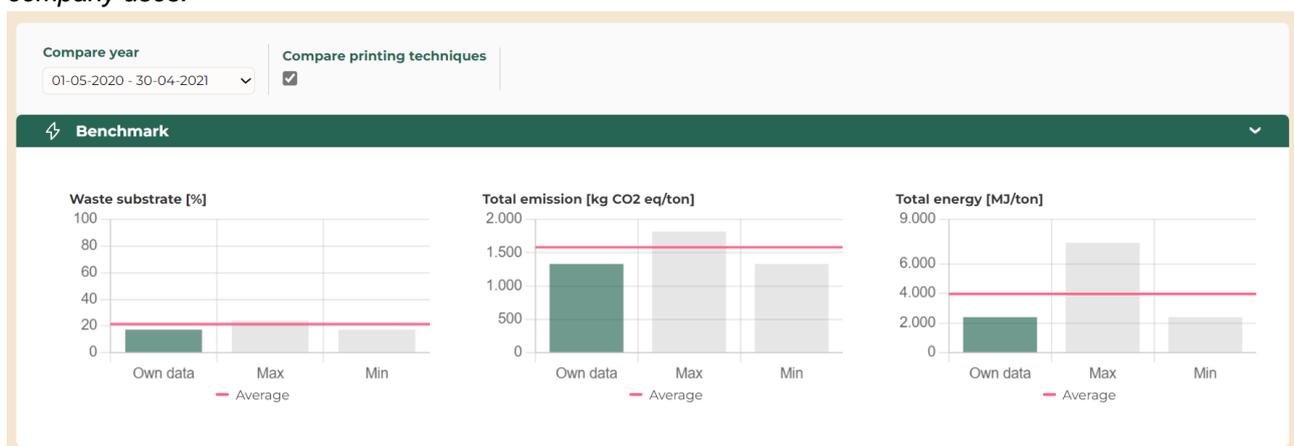
- Waste substrate [%]
- Total emissions of CO<sub>2</sub> per ton printed product [kg CO<sub>2</sub> eq/ton]
- Total energy consumption per ton printed product [MJ/ton]

Please refer to section 15 in this document for further details on these key performance indicators.

There are two ways to conduct benchmarking:

- By comparing all companies regardless of printing techniques used.
- By comparing with companies with the exact same printing techniques as the company has stated under the tab "Company information".

*Figure 18.1. Example of benchmark with marking for comparison with the same printing techniques as the company uses.*



The benchmark displays the following parameters with different colours for each of the key performance indicators:

- Green: Level of the company (Own)
- Grey: Level of companies with the highest and lowest value (Max. and Min.)
- Red: Average level across all companies

**NOTICE**

**Benchmarking is not possible, if the company has entered alternative data of the size of the production under “Input company”, paragraph F. This is because when a company uses an alternative reference for the key figures, the company cannot compare itself with other companies.**

## 19 Administration <sup>NEW</sup>

In the administration module of ClimateCalc the company can administrate the local company users and define their permissions. In the administration module it is also possible to manage the sharing of product calculations.

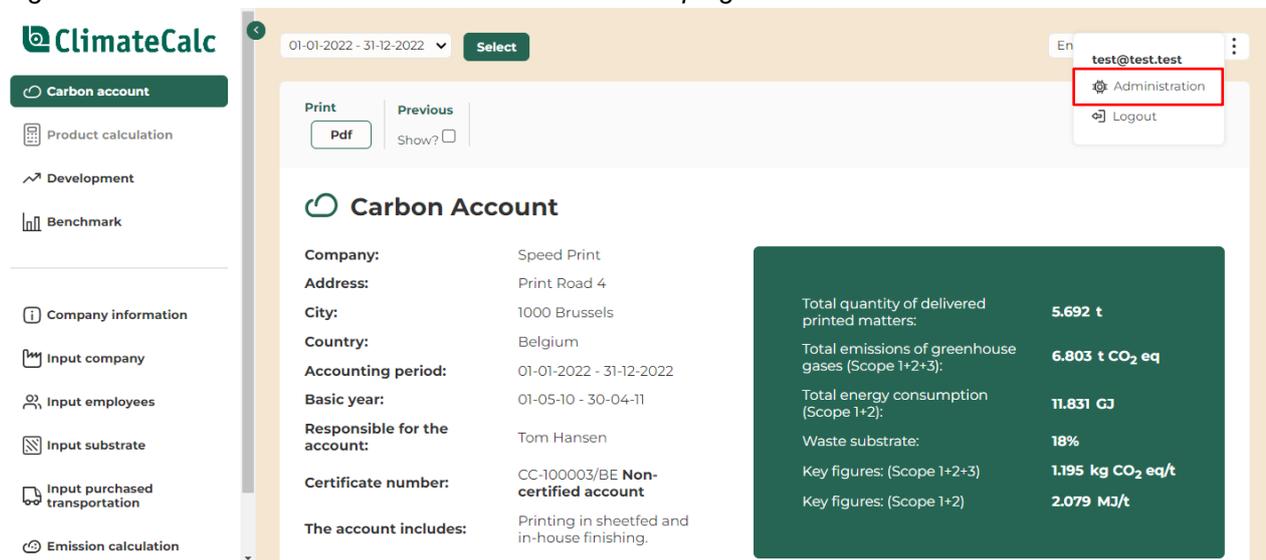
### NOTICE:

**Auto-save is not available in the administration module of ClimateCalc, and all changes must be saved manually by clicking “Save changes”.**

The administration module of ClimateCalc can be accessed by clicking the three dots in the top right corner of any tab in the calculator. The user access to the administration module and the different functionalities is depending on the permissions settings of the user logged in.

The three dots also give access to logout and shows the current user logged in.

Figure 19.1 Access to the administration module in the top right corner.



### 19.1 Administration of user permissions <sup>NEW</sup>

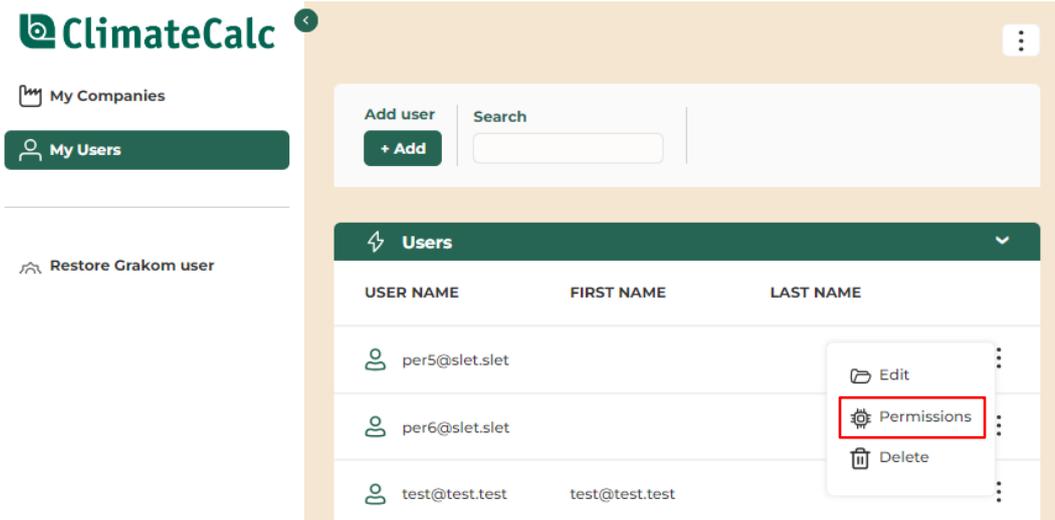
The administration of the user permissions is handled on the tab “My users” in the administration module of ClimateCalc.

Figure 19.2 Access to the user administration.



On the tab “My users” the current company users are listed. By clicking the three dots to the right of the user the permissions can be customized.

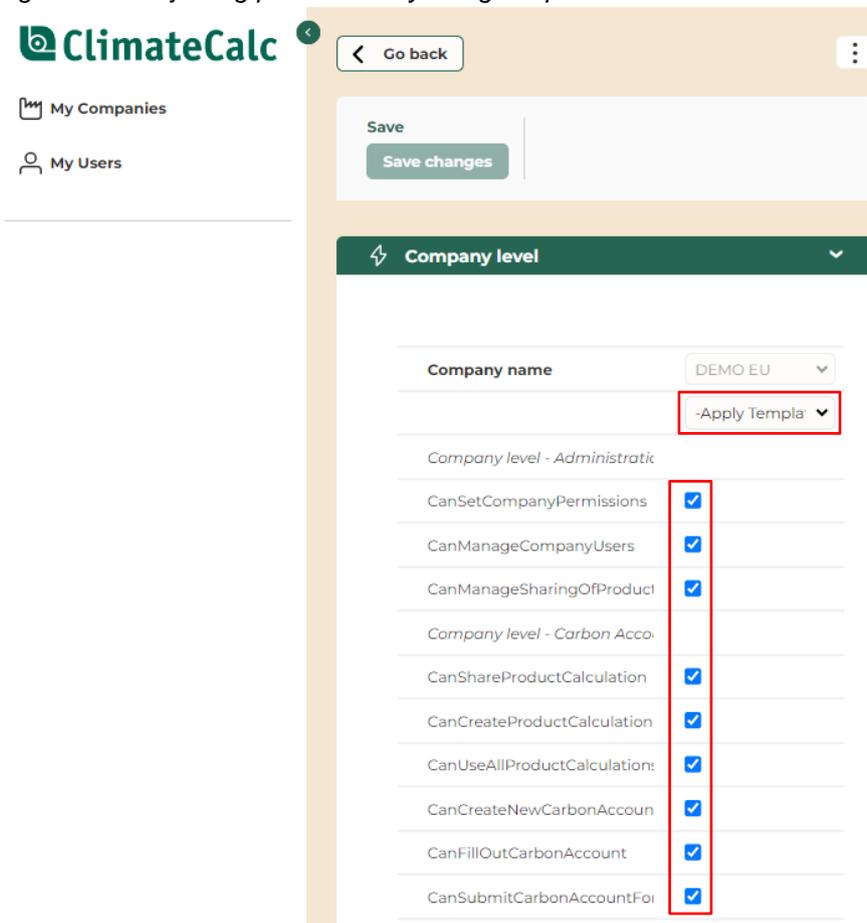
Figure 19.3 The permission settings can be accessed by clicking the three dots to the right.



All new company users are by default assigned the permissions as “Company administrator” and the permissions of the user might need to be customized. This can be done by tick marking the permission individually or by selecting one of the default permission templates:

- CompanyAdmin
- CompanyUser
- CompanyProductCalculationUser

Figure 19.4 Adjusting permission by using templates or the tick marks.



Remember to press **“Save changes”** before closing the window.

In the table below the different permission settings for the company are explained.

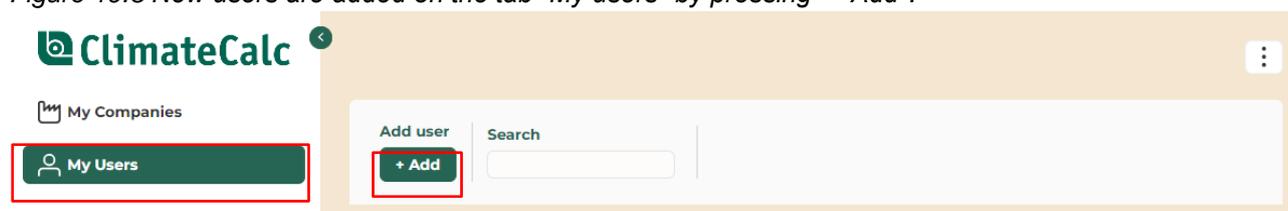
Permission setting in Administration	Explanation of the permissions
CanSetCompanyPermissions	Can set permissions for users on company level
CanManageCompanyUsers	Can add and remove users on company level.
CanManageSharingOfProductCalculations	Can define the organisations that product calculations can be shared with in the 'Product calculation' in the calculation module.
CanShareProductCalculation	Can share a calculated product calculation with the organisations defined.
CanCreateProductCalculation	Can make product calculations in certified carbon accounts.
CanUseAllProductCalculations	Can access product calculations for all company users. If this permission is not activated the user can only access own product calculations.
CanCreateNewCarbonAccount	Can create a carbon account for a new period in the calculation module and can delete carbon accounts.
CanFillOutCarbonAccount	Can access the input tabs in the calculation module.
CanSubmitCarbonAccountForAudit	Can activate the button 'Completed' on the tab 'Company information' in the calculation module.

For company users in a multi-site set up the permissions can be assigned on either multi-site level or site level by the multi-site company administrator.

## 19.2 Adding new users <sup>NEW</sup>

The administration of the users is handled on the tab “My users” in the administration module of ClimateCalc.

Figure 19.5 New users are added on the tab “My users” by pressing “+ Add”.



After pressing “+ Add” there must be stated the following data about the user:

- E-mail (username)
- Password
- Name

Note that there are the following options when setting up the user password:

- Auto-generation of password
- Copy of the password to the clipboard (before pressing “Save changes”)
- Tick mark for sending Welcome mail with login credentials directly to the new user (before pressing “Save changes”).

Remember to press **“Save changes”** before closing the window.

If an e-mail (username) is already setup in ClimateCalc it's not possible to create a new user with the same e-mail.

Figure 19.6 The module for adding new users. Remember to press "Save changes".

The screenshot shows the ClimateCalc user creation interface. On the left is a sidebar with the ClimateCalc logo and navigation options: 'My Companies' and 'My Users'. The main content area has a 'Save' section with a 'Save changes' button highlighted in red. To its right is an 'Available Companies' section with a 'Select company' dropdown and a '+ Add to' button. Below this is an 'Account' section with a dropdown arrow, containing error messages: 'The Email field is required.' and 'The Password field is required.'. It features an 'E-mail (Username)' input field, a 'Generate a new password' button (highlighted in red) next to a 'Copy to clipboard' button, a 'Password' input field, a 'Confirm password' input field, and a 'Send welcome mail' checkbox (highlighted in red). The 'Personal information' section has 'Firstname' and 'Lastname' input fields.

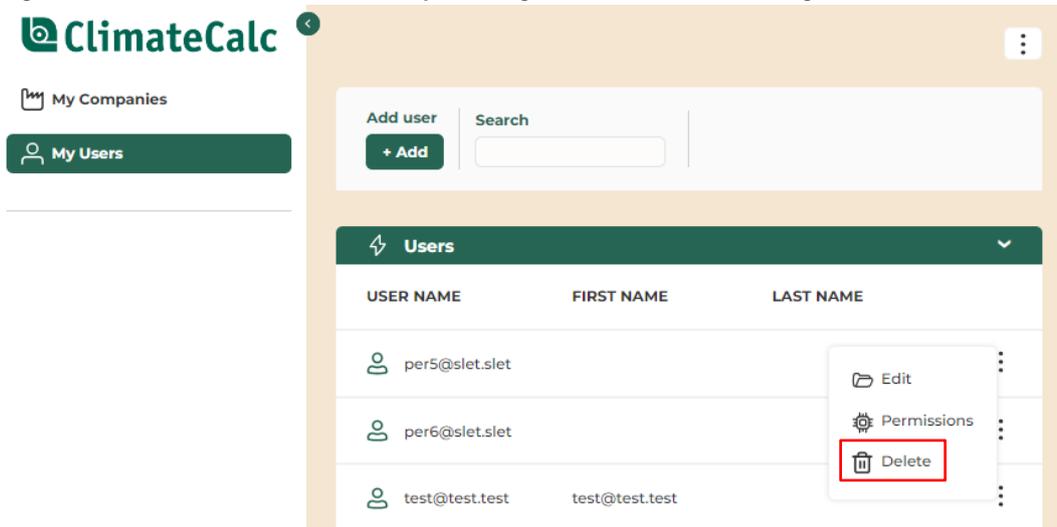
All new company users are by default assigned the permissions as "Company administrator" and the permissions of the user might need to be customized. Please refer to section 19.1 in this document.

### 19.3 Deleting users <sup>NEW</sup>

By clicking the three dots to the right of the user the user can be deleted. The user will then be deleted instantly, but only if that user is allocated to one company.

If the user which is to be deleted is also allocated to other companies, the user will only be removed from the company or companies that the user logged in has permissions to manage.

Figure 19.7 A user can be deleted by clicking the three dots to the right.



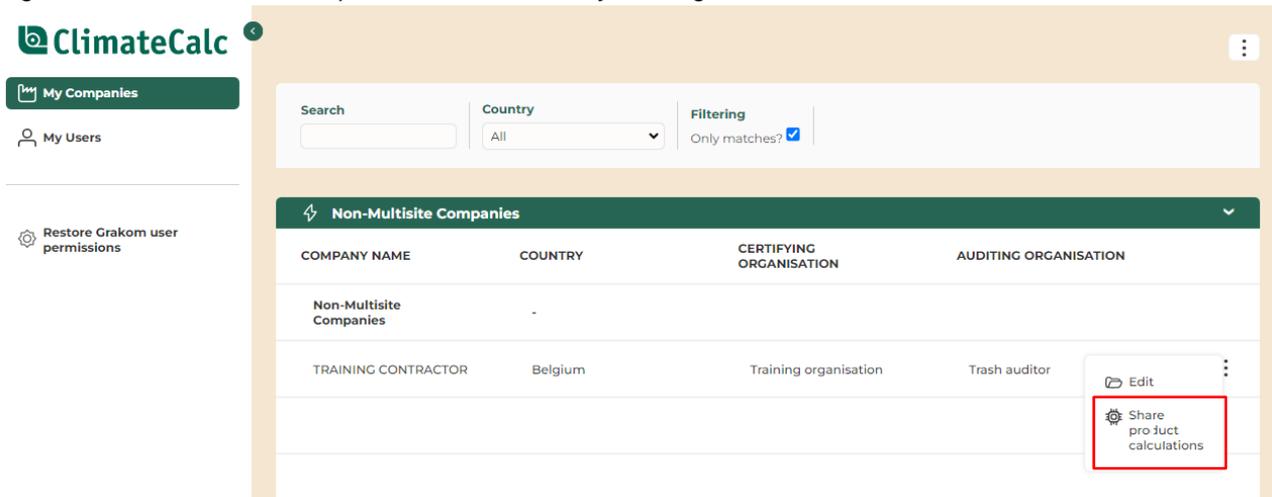
### 19.4 Manage the sharing of product calculations <sup>NEW</sup>

If the company wants to share product calculations with other companies using ClimateCalc the company must define the companies that are eligible to receive shared product calculations in the administration module of ClimateCalc. Notice that it requires a certain user permission to manage the sharing of product calculations in the administration module. Please refer to section 19.1 in this document.

The sharing of product calculations is managed on the tab “My Companies”. On this tab the user that is logged in can access the companies that the user has permissions to administrate. Most company users will only have access to one company unless that the user works in a multi-site organisation or are involved in the carbon account of several companies.

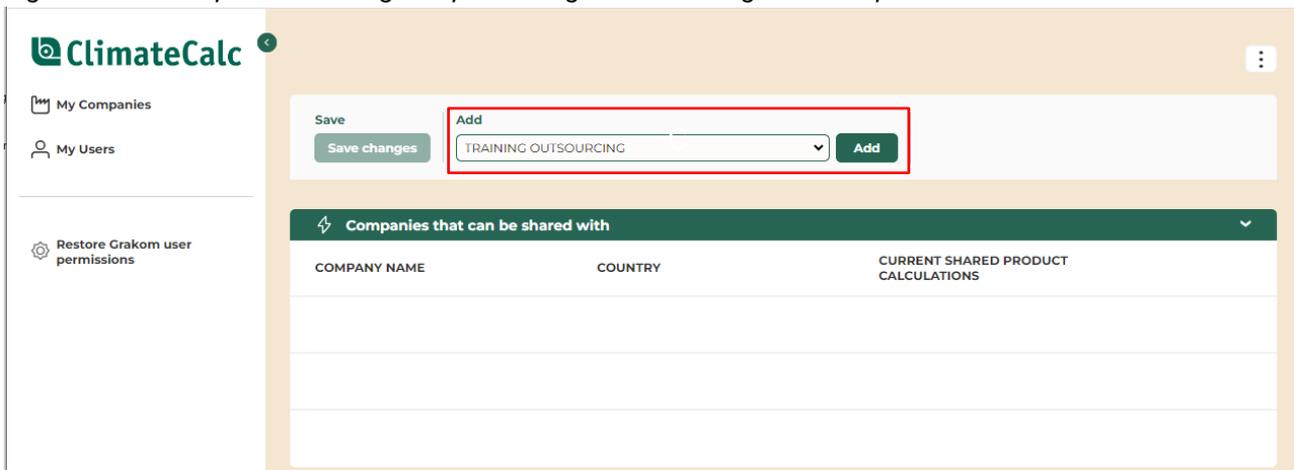
By clicking the three dots to the right of the company there is access to the two sections as shown in the figure below:

Figure 19.8 Access to share product calculations by clicking the three dots.



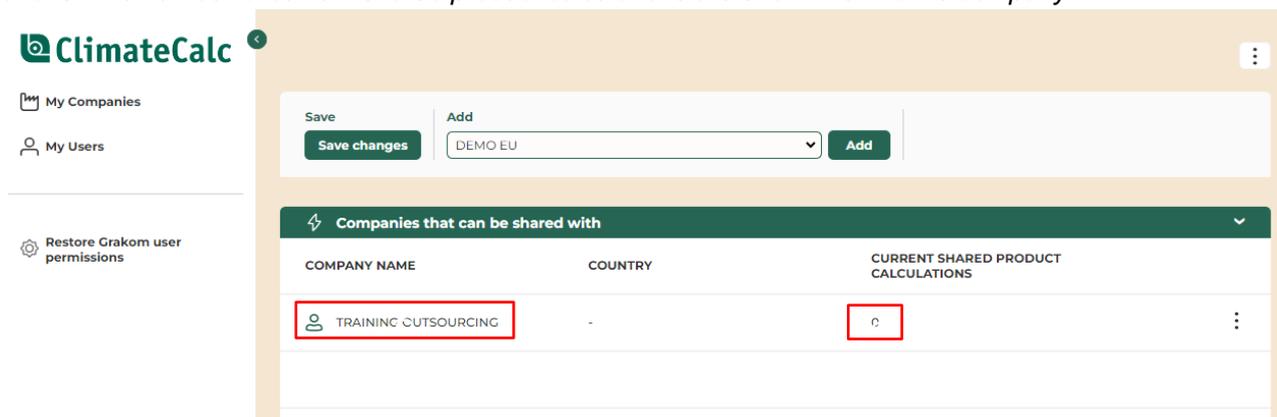
By clicking “Share product calculations” the companies eligible for sharing product calculations can be selected in the drop-down menu and added to the list by clicking “Add”.

Figure 19.9 Example of selecting companies eligible for sharing in the drop-down menu.



After adding the company eligible for sharing product calculations the company will be shown on the list below.

Figure 19.10 Example of selected company (TRAINING OUTSOURCING) eligible for sharing product calculations. The number of current shared product calculations are shown next to the company.



Remember to press **“Save changes”** before closing the window.

The selected companies can be removed from the list by clicking the three dots to the right.

## 20 Multi-site <sup>NEW</sup>

If the company is part of a multi-site organisation it is possible to share the substrate data between the different sites in the organisation.

### 20.1 Sharing substrates in multi-site organisations <sup>NEW</sup>

A substrate can be shared by tick-marking in the bottom section of each substrate quality. In this section it is also possible to tick-mark for “Notify changes in multi-site”. If the shared data are changed, a notification will then be shown on the start page for the site using the shared data. Please refer to section 20.3 in this document.

Figure 20.1 Example of sharing a substrate quality in a multi-site organisation.

The screenshot shows the 'Input substrate' interface. On the left is a navigation menu with items: 'Input purchased transportation', 'Emission calculation', 'Labels', and 'User Settings'. The main content area is titled '3. Data based on other sources' and contains the following fields:

- CO2 (fossil):  kg CO<sub>2</sub>/t
- Data source:
- Share in multi site:
- Notify changes in multi site:

### 20.2 Copying shared substrates in multi-site organisations <sup>NEW</sup>

If a site in a multi-site organisation has marked a substrate for sharing it will then be accessible for copying for other sites in the organisation on the tab “Input substrate”. The other sites can then select the shared substrates in a drop-down menu.

Figure 20.2 Shared substrates can be selected in the drop-down menu.

The screenshot shows the 'Data on production of substrate' section. At the top, there are buttons for 'Add substrate', 'Remove substrate', and 'CSV'. Below this is a table with calculated emission factors:

Calculated emission factors based on typed data in this sheet		Substrate quality:	
Calculated emission factors based on typed data in this sheet		<input type="text"/>	
Emissions from production of substrate	250 kg CO <sub>2</sub> eq/t	Substrate supplier:	<input type="text"/>
Emissions from transportation of substrate	12 kg CO <sub>2</sub> eq/t	Substrate factory:	<input type="text"/>
Typed data for part of total purchased substrate	0 %	Comments:	<input type="text"/>
		Annual purchased amount (t):	<input type="text"/>

Below the table is a section titled 'L. Data on production of substrate'. It contains a 'Shared substrates' dropdown menu with three options: '--Select Company--', '--Select Carbon Account--', and '--Select Substrate--'. A red box highlights these three options. To the right of the dropdown is a 'Copy' button.

**NOTICE:**

**Before copying remember to add a new substrate which is empty. If the copy function is used on an existing substrate quality the copied data will override the existing data.**

After selecting a shared substrate in the drop-down menu, the shared data will be shown in a gray column. Before clicking the button “Copy” the data can be customized by removing the tick-marks in the top section or in the transport section in paragraph M at the bottom. The data in paragraph L cannot be customized. If the tick-marks are removed the share data will not be copied. This is particularly relevant for the transport data I paragraph M since data for transport normally differs from site to site.

Figure 20.3 Example of a shared substrate ready for being copied. Notice the tick-marks that can be unticked before clicking the button “Copy.”

**Calculated emission factors based on typed data in this sheet**

Calculated emission factors based on typed data in this sheet		Substrate quality:	Speed web Gloss/Silk <input checked="" type="checkbox"/>	<input type="text"/>
Emissions from production of substrate	250 kg CO <sub>2</sub> eq/t	Substrate supplier:	Speed Paper <input checked="" type="checkbox"/>	<input type="text"/>
Emissions from transportation of substrate	12 kg CO <sub>2</sub> eq/t	Substrate factory:	Fictitious mill <input checked="" type="checkbox"/>	<input type="text"/>
Typed data for part of total purchased substrate	0 %	Comments:	<input checked="" type="checkbox"/>	<input type="text"/>
		Annual purchased amount (t):		<input type="text"/>

**L. Data on production of substrate**

Shared substrates: TRAINING MULTI HQ | 01-01-2022 - 31-12-2022 | Speed web Gloss/Silk | **Copy**

Emissions calculated on the basis of typed data in one of the following two ways: 0 kg CO<sub>2</sub> eq/t

No data are typed in

1. 1. Data based on CEPI's method for estimation of Carbon Footprint in 10 parameters

1. 1. Carbon sequestration in forests:	0	<input type="text"/>	kg CO <sub>2</sub> eq/t
2. 2. Carbon stored in forest products:	780	<input type="text"/>	kg CO <sub>2</sub> eq/t
3. 3. Greenhouse gas emissions from forest product manufacturing facilities:	280	<input type="text"/>	kg CO <sub>2</sub> eq/t
4. 4. Greenhouse gas emissions associated with producing fibre:	20	<input type="text"/>	kg CO <sub>2</sub> eq/t
5. 5. Greenhouse gas emissions associated with producing other raw materials/fuels:	150	<input type="text"/>	kg CO <sub>2</sub> eq/t

Figure 20.4 Example of a shared substrate in the transport section ready for being copied. Notice the tick-marks that can be unticked before clicking the button “Copy.”

**M. Data on transportation of substrate**

Emissions calculated on the basis of typed data in one of the following two ways: 0 kg CO<sub>2</sub> eq/t

No data are typed in

1. 1. Data reported by the supplier (only emissions from burning of fuel)

1. Type the emissionens from transportation of substrate (only direct emissions)	25	<input checked="" type="checkbox"/>	<input type="text"/>	kg CO <sub>2</sub> /t
Date or period of validity for typed data:	Duration from supplier	<input checked="" type="checkbox"/>	<input type="text"/>	
2. 2. Own information about distance				
Distance for transportation of substrate from factory to wholesaler or directly to company	0	<input checked="" type="checkbox"/>	<input type="text"/>	km
Distance for transportation of substrate from wholesaler to company	0	<input checked="" type="checkbox"/>	<input type="text"/>	km

After copying the shared substrate, the Annual purchased amount must be entered for the site that has copied the shared substrate.

Figure 20.5 Example of a shared substrate where all shared data are copied. Notice that the Annual purchased amount must be entered.

**Add substrate**

Save changes You still need to fill in 1 field. + Add substrate

**Remove substrate**

- Remove substrate

**Substrate**

Speed web Gloss/Silk ▼ Prev Next

**CSV**

CSV menu ▶

**Calculated emission factors based on typed data in this sheet** ▼

Calculated emission factors based on typed data in this sheet		Substrate quality:	Speed web Gloss/Silk <input checked="" type="checkbox"/>	Speed web Gloss/Silk
Emissions from production of substrate	250 kg CO <sub>2</sub> eq/t	Substrate supplier:	Speed Paper <input checked="" type="checkbox"/>	Speed Paper
Emissions from transportation of substrate	12 kg CO <sub>2</sub> eq/t	Substrate factory:	Fictitious mill <input checked="" type="checkbox"/>	Fictitious mill
Typed data for part of total purchased substrate	0 %	Comments:	<input checked="" type="checkbox"/>	<input type="text"/>
Annual purchased amount (t):				

**L. Data on production of substrate** ▼

**Shared substrates** TRAINING MULTI HQ ▼ 01-01-2022 - 31-12-2022 ▼ Speed web Gloss/Silk ▼ Copy

**Emissions calculated on the basis of typed data in one of the following two ways** 670 kg CO<sub>2</sub> eq/t

**1. 1. Data based on CEPI's method for estimation of Carbon Footprint in 10 parameters**

1.	1.	Carbon sequestration in forests:		0	<input type="text"/>	kg CO <sub>2</sub> eq/t
2.	2.	Carbon stored in forest products:		780	<input type="text" value="780"/>	kg CO <sub>2</sub> eq/t
3.	3.	Greenhouse gas emissions from forest product manufacturing facilities:		280	<input type="text" value="280"/>	kg CO <sub>2</sub> eq/t
4.	4.	Greenhouse gas emissions associated with producing fibre:		20	<input type="text" value="20"/>	kg CO <sub>2</sub> eq/t
5.	5.	Greenhouse gas emissions associated with producing other raw materials/fuels:		150	<input type="text" value="150"/>	kg CO <sub>2</sub> eq/t
6.	6.	Greenhouse gas emissions associated with purchased electricity, steam etc.:		180	<input type="text" value="180"/>	kg CO <sub>2</sub> eq/t

### 20.3 Notification about updated data <sup>NEW</sup>

If the site that is sharing a substrate quality is making changes to data which is copied by another site a notification will then be shown on the start page for the site using the shared data for all users who has access to the tab: "Input substrate".

The user receiving the notification can click on the button: "Go to" to go directly to the substrate with the updated data ready for being copied.

Figure 20.6 Example of a notification about changes in shared substrate data copied by a site. The button “Go to” will direct the user to the substrate with the updated data ready for being copied.

The screenshot displays the ClimateCalc user interface. At the top left is the ClimateCalc logo. On the right, there is a language dropdown set to 'English' and a menu icon. Below the logo is a 'User Settings' link. The main content area features a header with 'Country' (Belgium), 'Company' (TRAINING MULTI SITE), and an 'Add Carbon Account' section with a '+ New' button. Below this is a section titled 'Your Carbon Accounts:' with a 'Select' button and a list item: 'TRAINING MULTI SITE - 01-01-2022 - 31-12-2022 [Delete]'. A 'My Notifications' section is highlighted with a green header and contains a table with the following data:

Date	Title	Text	
11-09-23 11:15	Shared substrate changed	The source substrate of Speed silk in account 01-01-2022 - 31-12-2022 on company TRAINING MULTI SITE has been modified. Update the copy again to get the latest data	<a href="#">Go to</a> <a href="#">Delete</a>

## 21 Calculation factors

### Energy units

Energy	kWh	MJ	kcal
1 kcal =	0,001163	0,004187	1
1 MJ =	0,2778	1	238,85
1 kWh =	1	3,6	859,85

### Size units

Abbreviation	Pronouncement	Size
k	Kilo	1.000
M	Mega	1.000.000
G	Giga	1.000.000.000
T	Tera	1.000.000.000.000