

CO2-ladder – Reference Year 2023

Policy & Reduction Ambitions

The Weather Makers B.V.

February 2024

Author: Eduardo Vias

Date: 03 February 2024

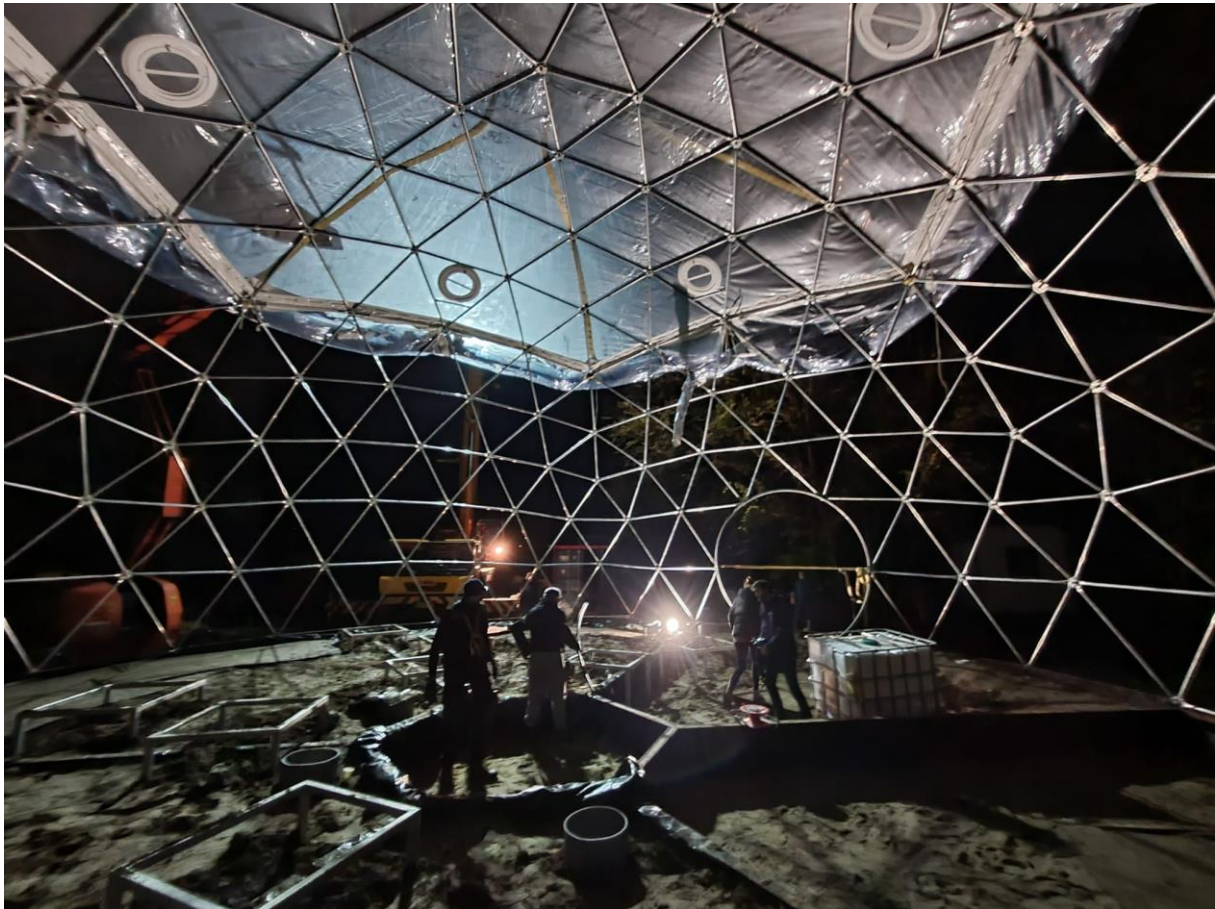


Table of Contents

1	Summary.....	3
2	Introduction.....	3
2.1	Organisational Boundary.....	3
2.2	CO ₂ -related award advantage.....	4
2.3	Company size – CO2 emissions.....	4
3	Insight – reference year 2023.....	4
4	Reduction.....	7
5	Participation and Initiatives.....	7
6	Disclaimer & Ondertekening.....	8

1 Summary

In the reference year 2023, The Weather Makers emitted in total 25.52 tonnes of CO₂.

With the reduction efforts they want to undertake The Weather Makers expect to reduce their emissions with 23%.

An overview of these figures can be found in the table below:

Emissions 2023	CO ₂ emissions (kg CO ₂ -eq/y)	CO ₂ emissions in tonnes	Reduction ambition	Percentage change
Scope 1	4262	4.26	4134	-3%
Scope 2	5207	5.21	4666	-10%
Business Travel	16054	16.05	14585	-9%
		25.52	23386	-23%

2 Introduction

The present CO₂ Ladder Assessment document is completed in September 2024. Currently, The Weather Makers B.V. is considered a ‘small company’ based on CO₂ emissions, as she does not emit more than 500 tonnes of CO₂ per year. The requirements for the assessment are fulfilled accordingly, based on *CO₂ Performance Ladder 3.1* (22nd June 2020) by Stichting Klimaatvriendelijk Aanbesteden & Ondernemen (SKAO)¹.

In this document The Weather Makes share the following Angles within the CO₂-ladder approach:

- a. Insight
- b. Reduction measures and ambition

In this policy report, The Weather Makers B.V. describes what efforts will be taken to reduce emissions.

2.1 Organisational Boundary

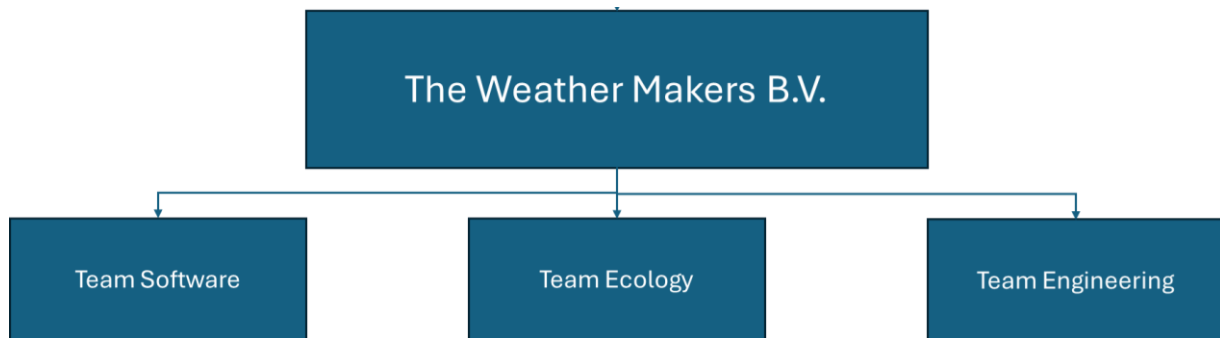
The Weather Makers consists of about 15fte in 2023. The company is small, but works in a niche sector, namely ecosystem regeneration. The main focus of the company is to ensure a liveable planet and to balance the climatic system on the mid-term (human lifetime).

The organisation is founded by Gijs Bosman, Maddie Akkermans and Ties van der Hoeven. The employees within the company are divided in 3 teams: Software, Ecology and Engineering.

The company is located in The Netherlands. The projects are international, but the main work is done from The Netherlands.

Please find the organigram below:

¹ <https://www.co2-prestatieladder.nl/nl/handboek>



2.2 CO₂-related award advantage

There are no ongoing or finalized projects with CO₂-related award advantages in correspondence with the demanded criteria in the current year. It is relevant to mention that The Weather Makers' main economic activity – environmental engineering consulting – is focused on advising measurements to sequester atmospheric CO₂ through ecosystem restoration and nature improvement.

2.3 Company size – CO₂ emissions

De total CO₂ emissions of The Weather Makers B.V. in the reference year 2023: 21,53 tonnes. The Weather Makers B.V. therefore is seen as a small company. Please see Table 1.

	DIENSTEN¹²	WERKEN/ LEVERINGEN
Kleine organisatie	Totale CO ₂ -uitstoot bedraagt maximaal (≤) 500 ton per jaar.	Totale CO ₂ -uitstoot van de kantoren en bedrijfsruimten bedraagt maximaal (≤) 500 ton per jaar, en de totale CO ₂ -uitstoot van alle bouwplaatsen en productielocaties bedraagt maximaal (≤) 2.000 ton per jaar.
Middelgrote organisatie	Totale CO ₂ -uitstoot bedraagt maximaal (≤) 2.500 ton per jaar.	Totale CO ₂ -uitstoot van de kantoren en bedrijfsruimten bedraagt maximaal (≤) 2.500 ton per jaar, en de totale CO ₂ -uitstoot van alle bouwplaatsen en productielocaties bedraagt maximaal (≤) 10.000 ton per jaar.
Grote organisatie	Totale CO ₂ -uitstoot bedraagt meer dan (>) 2.500 ton per jaar.	Totale CO ₂ -uitstoot van de kantoren en bedrijfsruimten bedraagt meer dan (>) 2.500 ton per jaar, en de totale CO ₂ -uitstoot van alle bouwplaatsen en productielocaties bedraagt meer dan (>) 10.000 ton per jaar.

Tabel 1: Indeling groottecategorieën volgens Handboek CO₂-Prestatieladder 3.1.

3 Qualitative goals

The goal of the energy management system and the reduction ambitions is to continuously improve the energy efficiency and reduction of the CO₂ emissions of the organisations. The goal for 2024 is to reduce 3% of emissions for scope 1, 10% emissions for scope 2, and 9% of emissions for Business Travel. These emissions will be reduced before the end of 2024 by the measures taken described in chapter 5.

De algemene doelstelling van het energiemanagementsysteem is om te komen tot een continue verbetering van de energie-efficiëntie en vermindering van de CO₂-uitstoot van de organisatie. Concreet is de doelstelling om in 2024 5% minder CO₂ in scope 1 en 100% minder CO₂ in scope 2 uit te stoten.

4 Insight – reference year 2023

The first step in the process is to gain insight on how high the current CO₂ emissions of The Weather Makers B.V. are. The year 2023 is taken as reference year regarding CO₂ emissions tracking for the CO₂-ladder. The year 2023 will be used as their baseline for the upcoming years and their ambitions to reduce emissions. The first reduction is expected in 2024 and 2025. The reduction steps later than this period, may be more incremental.

As The Weather Makers B.V. rents their office with a vacant property managing company, it pays a standardised fee for electricity and heating. Within the building there are no measuring points, thermostats or other possibilities to track the electricity or gas usage of the company solely.

Therefore, The Weather Makers calculated their CO₂-emissions equivalent using the Green House Gas (GHG) Protocol and related Emission Factors². With this approach an inventory is made of the different sources of CO₂eq emissions (GHG inventory). This allows for quantification and management of the related emissions. To get to CO₂ equivalents emissions factors are used and related to the usage of different appliances that are used in the office and the research facility.

The table below gives an overview of the direct emissions related to Scope 1:

Scope 1: Direct Emissions

	MEANS OF TRANSPORTATION	Activity	Total distance traveled (km)	CO ₂ emissions (kg CO ₂ -eq/y)	Reduction
1	Company car / petrol / medium	Commuting	20890	4262	4134
	Total Scope 1			4262	4134

Table 2: Scope 1 Emissions

The total emissions for Scope 1 are 4262 or 4.3 tonnes of CO₂.

As shown in the above table, the appliances that use the most electricity are the computers used by the consultants and engineers. As the main service of The Weather Makers is on consultancy, this would be expected. The research facility called the Eco Oasis Dome also uses electricity. In this R&D facility, The Weather Makers conduct research on ecosystem regeneration.

The indirect emissions or emissions within Scope 2 are shown in Table 3.

Scope 2: Indirect Emissions

	OFFICE	Units	Electricity consumption (kWh/d)	Electricity consumption (kWh/y)	CO ₂ emissions (kg CO ₂ -eq/y)
1	Fridge	2	1.6	1168	533
2	Freezer	1	0.8	292	133
3	Microwave	1	0.2	46	21
4	Tosti-maker	1	0.05	12	5
5	Coffee machine	1	0.5	116	53
6	Computer	11	0.52	1321	603
7	Screen	11	0.20	508	232
8	Television	1	0.09	21	10
9	Radiator	11	0.06	106	2701
10	Eco Oasis Laboratory R&D			2012	917
	Total Scope 2				5207

Table 3: Scope 2 Emissions

² www.co2emissiefactoren.nl/wp-content/uploads/2023/11/CO2emissiefactoren-2023-okt2023.pdf

Emissions related to scope 2 entail all indirect emissions. These emissions are generated on behalf of the company. The reason is that The Weather Makers have a contract with the vacant property managing company that also covers electricity and gas. Therefore, the related emissions are calculated using the GHG Protocol approach to gain insights. The total emissions for Scope 2 are 5207 or 5.2 tonnes of CO₂.

In Table 4, the emissions related to Business Travel are given.

Business Travel				
	MEANS OF TRANSPORTATION	Activity	Total distance traveled (km)	CO ₂ emissions (kg CO ₂ -eq/y)
1	Particular e-car / green energy	Commuting	1650	3
2	Particular car / petrol / small	Commuting	18249	3175
3	Particular car / petrol / medium	Commuting	1722	351
4	Particular e-bike	Commuting	8140	24
5	Train national / NS	Commuting	103284	0
6	Train international	Commuting	0	0
7	Plane	Commuting	6180	1063
8	Particular car / petrol / small	ZLTO (through the year)	1505	262
9	Plane	UN 2023 Water Conference	35172	5522
10	Plane	Barcelona Smart City Week	4960	853
11	Plane	Audi Madrid	2962	509
12	Plane	Trinidad and Tobago	14164	2224
13	Plane	Bardawil & Sinai Initiative	13160	2066
	Total Business Travel			16054

Table 4: Business Travel

The total emissions for Business Travel are 16054 or 16.1 tonnes of CO₂.

The GHG Protocol uses conversions factors to calculate the emissions related to Scope 1, 2 and Business Travel. The conversion factors can be found in Table 5 below:

Conversion factors		
Item	Unit	Value
Petrol car / small	kg CO ₂ -eq/km (WTW)	0.174
Petrol car / medium	kg CO ₂ -eq/km (WTW)	0.204
E-car / green energy	kg CO ₂ -eq/km (WTW)	0.002
E-bike	kg CO ₂ -eq/km (WTW)	0.003
Plane / 700 - 2,500 km	kg CO ₂ -eq/km (WTW)	0.172
Plane / > 2,500 km	kg CO ₂ -eq/km (WTW)	0.157
Train national / green energy	kg CO ₂ -eq/km (WTW)	0
Train international	kg CO ₂ -eq/km (WTW)	0.017
Gray current	kg CO ₂ -eq/kWh	0.456
Average heating networks	kg CO ₂ -eq/GJ	25.37
Working days per month	d/m	21
Working months per year	m/y	11

Table 5: Conversion factors used in GHG Protocol

The total sum of emissions combined for The Weather Makers, adding Scope 1, 2 and 3 is shown in Table 6.

Emissions 2023	CO ₂ emissions (kg CO ₂ -eq/y)	CO ₂ emissions in tonnes
Scope 1	4262	4.26
Scope 2	5207	5.21
Business Travel	16054	16.05
		25.52

Table 6: overview of all emissions of The Weather Makers, covering Scope 1, 2 and Business Travel

5 Reduction

The Weather Makers will implement several measures to reduce emissions related to all three scopes. The measures that will be implemented can be found in the table 7 below.

	Source	Measure	Reduction
Scope 1	Company cars	Tire Pressure	3%
Scope 2	Heaters	Put all heaters on 4 instead of 5	20%
Business Travel	Private cars	Tire Pressure	3%
Business Travel	Flights	Reduce flights with 33%	33%

Table 7: reduction measures The Weather Makers

The effect of these measures is calculated into the expected total emissions for 2025, these are given in Table 8 below.

Emissions 2023	CO2 emissions (kg CO2-eq/y)	CO2 emissions in tonnes	Reduction ambition	Percentage change
Scope 1	4262	4.26	4134	-3%
Scope 2	5207	5.21	4666	-10%
Business Travel	16054	16.05	14585	-9%
		25.52	23386	-23%

Table 8: effects of measures on expected emissions

6 Participation and Initiatives

Memberships that The Weather Makers have are with the Netherlands Water Partnership and the Dutch Metropolitan Innovations. Both these organisations have a goal to increase sustainability in the Netherlands and on a larger scale, Europe and globally.

With The Netherlands Water Partnership, The Weather Makers have pledged to the Water Action Agenda³.



³ <https://sdgs.un.org/conferences/water2023/action-agenda>

7 Disclaimer & Ondertekening

The information in this document is confidential to the person to whom it is addressed and should not be disclosed to any other person. It may not be reproduced in whole, or in part, nor may any of the information contained therein be disclosed without the prior consent of The Weather Makers B.V. A recipient may not solicit, directly or indirectly (whether through an agent or otherwise) the participation of another institution or person without the prior approval of the directors of The Weather Makers. This document does not grant any right or license in relation to the information herein contained, nor does it transfer any intellectual property rights

Signature

Reference: CO2-ladder

Date: 05-02-2024

Versie: 4

Verantwoordelijke Directeur: Maddie Akkermans

<< voor akkoord per 05 February 2024 >>

<< No signature has been placed due to privacy reasons as this document is published online >>