

CO₂ REDUCTION PLAN 2023

(INCLUDING ENERGY ASSESSMENT)

Based on 2022 data

VenhoevenCS
architecture+urbanism

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1 Introduction

This Reduction Plan is a partner document to the Energy Management Plan. This report deals with the emissions-inventory of VenhoevenCS. This document focusses on aspect A (insight) and aspect B (CO₂ reduction) of the CO₂ Performance Ladder.

The CO₂ footprint provides an overview of the total greenhouse gas emissions: the GHG-emissions. This also provides insights to the origin of these emissions with a distinction of direct and indirect GHG-emissions (respectively scope 1 and scope 2).

The overview is a justification of requirement 3.A.1 van de CO₂ Performance Ladder and has been conducted in accordance with ISO 14064-1: 2018 (E) "*Quantification and reporting of greenhouse gas emissions and removals.*" This document provides the CO₂ footprint according to § 7.3.1 of this norm. The last chapter provides a cross table to confirm this.

In reporting for the CO₂ Performance Ladder a distinction is made between scope 1, 2 and 3. This distinction originates from the GHG-protocol. The SKAO positions '*business travel*' and '*personal cars for business travel*' in scope 2 instead of scope 3. As this report on the CO₂ Performance Ladder is from the SKAO, their scope 1 and scope 2 categories will be adhered to.

Moreover, this document presents scope 1 and 2 of the CO₂ reduction measures of VenhoevenCS, alongside this, the progress of the CO₂ reduction is being looked at. Preceding this is the CO₂ footprint for scope 1 and 2 in line with the ISO-14064-1 norms and the GHG-protocol.

To determine the CO₂ reducing measures that can be implemented for VenhoevenCS, an assessment is made of possible measures. This assessment is included as a separate tab in the Excel document 'QHSE actielijst. Based on the measures that are relevant for VenhoevenCS, the CO₂ reduction plan is being drawn up. This document describes the reduction goals and the corresponding measures.

Chapter 4 of this document describes the energy assessment for which an analysis is made about the progress of the CO₂ reduction and possible improvement points. Chapter 5 then describes the objectives. The progress is depicted in chapter 6.

This reduction plan was drawn up in accordance with and under approval of management.

1.1 Reading guide

This document serves as foundation of the requirements for the CO₂ Performance Ladder. Every chapter deals with a specific requirement which is outlined below.

Chapter in this document	Requirement of the CO ₂ Performance Ladder
Chapter 2: Description of the organisation	3.A.1
Chapter 3: Emissions inventory report	3.A.1
Chapter 4: Energy assessment	2.A.3
Chapter 5: Objectives	3.B.1
Chapter 6: Progress CO ₂ reduction	3.B.1

2 Description of the organisation

VenhoevenCS is an innovative practice for sustainable architecture, urban development, and infrastructure, attuned to meeting the challenges of our time. Founded by Ton Venhoeven in Amsterdam in 1995, VenhoevenCS has since grown into a renowned design and consultancy practice, with five partners and an international team of architects, urban planners, and technical engineers.

Core Values

- ✓ Forward Thinking
- ✓ Collaborative
- ✓ Engaged
- ✓ Positive

Vision

There's only one planet.

We believe that it provides ample space for all living things to thrive.

And because world population and global consumption increase rapidly,

we need to develop new design principles to adjust the way humans shape and structure their use of the planet.

Mission

We believe that design can revitalize the world for all life forms.

Nature works with ecosystems that are self-sufficient and sustainable;

we use this holistic concept as starting point for our research and design practice.

Operating field:	Sustainable architecture, urban development, infrastructure, research and consultancy in the field of spatial planning
Company foundation:	2004 (Ton Venhoeven Holding B.V. in 1998)
Legal form:	Private Limited Liability Company (<i>Besloten Vennootschap</i>)
QM-System:	ISO 9001:2015 and ISO 14001:2015 since 2017 CO ₂ -performance ladder since 2016 Safety Culture Ladder since 2022
Employees per 31-12-2022:	42, excl. board, interns and freelances
Employees average in 2022:	50, excl. board, interns and freelances (47 FTE)
Board, interns and freelance	8,5 (8,2 FTE)
Customers in 2022:	72, combined VenhoevenCS, VCS-FR, VCS-BE and VCS-DE

2.1 Statement company size

All emissions mentioned in this document are the sum of the emissions of VenhoevenCS, VCS-FR, VCS-BE and VCS-DE.

Total scope 1 emissions in 2022: 6.933 kg CO₂

Total scope 2 emissions*) in 2022: 12.407 kg CO₂

*) including business travel

Total 19.340 kg CO₂ (21 ton)

VenhoevenCS thereby classifies as a **small** company in terms of CO₂ emissions (*Handboek CO₂ Performance Ladder 3.1.*, page 27).

2.2 Tenders with award advantage

In 2022 there were no architectural design or urban planning tenders published that included a CO₂ performance criterium. VenhoevenCS did not obtain any projects with award advantage through the CO₂ Performance Ladder since 2015.

3 Emission inventory report

3.1 Responsible actor

The person responsible for the continuous improvement cycle, CO₂ reduction as well as all related activities, such as accomplishing objectives, is Helga Lasschuijt (General / QHSE Manager). She reports directly to the board of directors.

3.2 Reference year

This report provides data from the fiscal year of 2022.

For the period 2016-2022 the reference year is 2015 for the purpose of reference for the CO₂ reduction measures.

For all calculations of data from 2023 on, the year 2022 will be the new reference year.

3.3 Organizational boundary

This paragraphs refers to the boundary of VenhoevenCS architecture+urbanism, including its subsidiaries. The organizational boundary consists of Ton Venhoeven c.s. Architecten B.V. (= VenhoevenCS), VCS-FR B.V., VCS-BE B.V. and VCS-DE B.V.

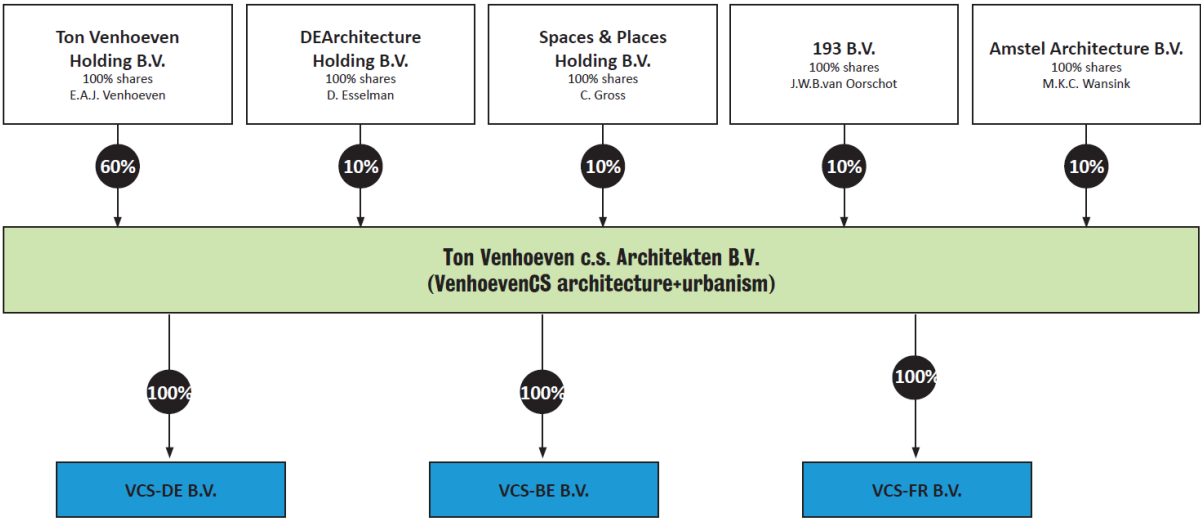
The organizational boundary is determined through the lateral method (*Handbook 3.1*, chapter 4.1).

VCS-FR B.V. was founded in March 2020 for the administrative and financial operations on behalf of the French projects of VenhoevenCS. VCS-FR does not employ staff, does not have its own office and does not have its own business operations. VCS-FR is a fiscal unity with VenhoevenCS. The costs and activities incurred for the French projects are included in this plan within the legal entity VenhoevenCS.

VCS-BE B.V. was founded in May 2021, set up for the administrative and financial operations on behalf of the Belgian projects of VenhoevenCS. VCS-BE does not employ staff, does not have its own office and does not have its own business operations. VCS-BE is a fiscal unity with VenhoevenCS. The costs and activities incurred for the Belgian projects are included in this plan within the legal entity VenhoevenCS.

VCS-DE B.V. was founded in December 2022, set up for the administrative and financial operations on behalf of the German projects of VenhoevenCS. VCS-DE does not employ staff, does not have its own office and does not have its own business operations. VCS-DE is a fiscal unity with VenhoevenCS. The costs and activities incurred for the Belgian projects are included in this plan within the legal entity VenhoevenCS.

All emissions and calculations mentioned in this document are the sum of the emissions of VenhoevenCS, VCS-FR, VCS-BE and VCS-DE.



3.4 Direct and indirect GHG-emissions

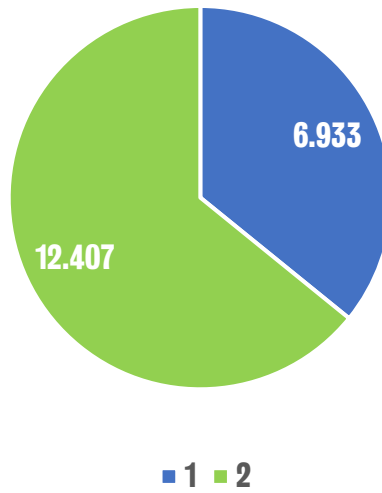
Elaboration on the calculated GHG-emissions.

Calculated GHG-emissions

All emissions mentioned in this document are the sum of the emissions of VenhoevenCS, VCS-FR, VCS-BE and VCS-DE.

The direct and indirect GHG-emissions of VenhoevenCS of scope 1 and 2 amounted to 21 ton CO₂ in 2022.

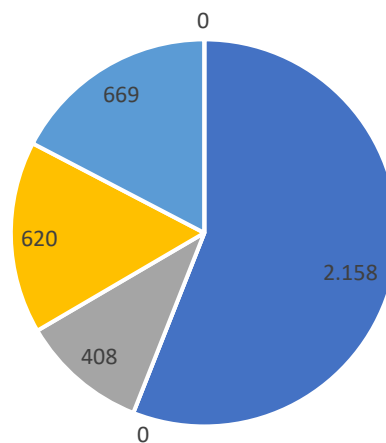
Scope 1 and 2 including business travel CO₂ emissions in 2022 (kg)



Elaboration scope 2 and business travel

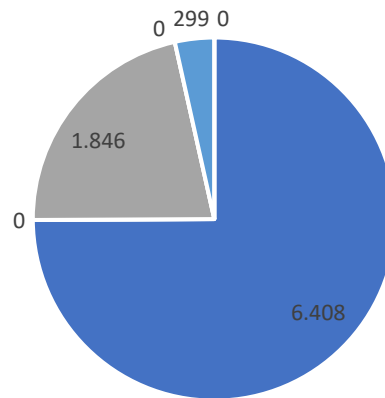
Electricity use	0	kg CO ₂
Business travel operation	3.854	kg CO ₂
Business travel projects	8.553	kg CO ₂
Total	12.407	kg CO₂

Business Travel Operations CO₂ emissions in 2022 (kg)



- Car travel
- Public Transport
- Train International
- Flights < 700 km
- Flights > 700 km < 2500 km
- Flights > 2500 km

Business Travel Projects CO₂ emissions in 2022 (kg)



■ Car travel
 ■ Public Transport
 ■ Train International
■ Flights < 700 km
 ■ Flights > 700 km < 2500 km
 ■ Flights > 2500 km

Overview CO ₂ emissions 2022 in tons				Full year
Type emission flow scope 1	Quantity	Unit	Emission factor (kg CO ₂ per unit)	Emission (ton CO ₂)
Gas consumption - office	3325	m ³	2,085	7,3
Total scope 1				2
Type emission flow scope 2	Quantity	Unit	Emission factor (kg CO ₂ per unit)	Emission (ton CO ₂)
Electricity - green	34.748	kWh	0	0
Total scope 2				0
Type emission flow business travel	Quantity	Unit	Emission factor (kg CO ₂ per unit)	Emission (ton CO ₂)
Private car	21.321	km	0,193	4,1
Private electric car (grey)	19.047	km	0,104	2,0
Car sharing (petrol small)	10.566	km	0,174	1,8
Electric car sharing (grey)	6.073	km	0,104	0,6
Public transport - NL	36.156	km	0	0
International train travel	86.690	km	0,026	2,2
Air travel <700 km	2.648	km	0,234	0,6
Air travel 700-2500 km	5.627	km	0,172	1,0
Air travel >2500 km	0	km	0,157	0
Total business travel				12,3
Total emission scope 1, 2 incl. business travel				21,1

Combustion of biomass

No combustion of biogas takes at VenhoevenCS.

GHG-removal

There is no greenhouse gas removal or compensation at VenhoevenCS.

Exceptions

There are no remarkable exceptions to mention on the GHG protocol.

Key influencers

Within VenhoevenCS there are no individuals who have got such an impact on the CO₂ footprint that a behavioural change of this individual person could ensure a significant change in the CO₂ footprint.

Future

The emissions in the paragraphs above are established for the fiscal year 2022. These numbers are still not representative: the start of 2022 still held covid-19 lockdowns, renovation of the office and a step-by-step use of office units as they became ready. We therefore expect the emissions to increase substantially in the coming years. The renovation will be complete in Q1 of 2023 and the office will be in full use, including the commissioning of the new installations.

Significant changes

See above.

3.5 Quantification methods

For the quantification of the CO₂ emissions, a tailor-made model is used. In the model, all consumption can be filled in. The corresponding CO₂ emissions will be calculated and compared to the reference year. The model uses emission factors from the CO₂ Performance Ladder that can be found on www.co2emissiefactoren.nl and provided by *De Duurzame Adviseurs*. In chapter 2 of the CO₂ Management plan of VenhoevenCS a description is provided of the data sources per energy flow.

3.6 Emission Factors

The emission factors of the CO₂ Performance Ladder 3.1 have been used to assess the CO₂ emissions of VenhoevenCS in 2022. As the emission factors are specifically calculated on both national and international level, the factors that have been used are very reliable for the conversion of the energy consumption into the related CO₂ emissions. The emission factors of VenhoevenCS will adapt to all changes in future certification schemes of the CO₂ Performance Ladder. For the calculation of the CO₂ footprint for 2022 the emission factors of 14-07-2022 have been used.

Removal factors do not apply.

3.7 Uncertainties

The presented results are an estimate of the actual values. Almost all data used for the calculation of the CO₂ footprint is based on invoices or measured quantities. This keeps the uncertainty margin to minimum. However, there are opportunities for improvement. These are outlined below:

- ✓ All emission flows were catalogued using the best available information. However, it is possible that while composing the CO₂ footprint, a typing error was made.

- ✓ Emission calculations for kilometers made by private car and public transport are based on the reimbursement invoices sent in by employees. If (in the unlikely but not impossible case) invoices are not sent in, those kilometers are not included in the emission calculation.

3.8 Exclusions

According to the Handbook 3.1, it is not mandatory to include a report on the CO₂ emission inventory of all greenhouse gasses, expressed in CO₂ equivalents. Thus, it is not mandatory to report on additional gasses, which are not CO₂ (CH₄, N₂O, HFC's, PFC's and SF₆) that were released during organisational activities, to include in the emission inventory. This also applies to refrigerants.

3.9 Verification

The emission inventory of VenhoevenCS has not been verified by an external agency. The emission inventory will be verified during the external audit. There has been an internal audit by an 'independent' colleague to verify the emission calculations with random checks.

3.10 Statement in accordance with ISO 14064-1

This report has been made according to the requirements from ISO 14064-1 paragraph 9.3.1. The cross-reference table below shows that all parts from ISO 14064 and §7.3 of the GHG report are included in this document.

ISO 14064-1 §9.3.1	§ 7.3 GHG-report content	Description	Chapter report
A	A	Reporting organization	2
B	B	Person responsible	3.1
C	C	Reporting period	3.2
D, E	D	Organizational boundaries	3.3
F	E	Direct GHG emissions	3.4
G	F	Combustion of biomass	3.4
H	G	GHG removals	3.4
I	H	Exclusion of sources or sinks	3.4
J	I	Indirect GHG emissions	3.4
K	J	Base year	3.2
L	K	Changes or recalculations	3.4
M, T	L	Methodologies	3.5
N	M	Changes to methodologies	3.6
O	N	Emission or removal factors used	3.6
P, Q	O	Uncertainties	3.7
R	P	Statement in accordance with ISO 14064-1	3.10
S	Q	Verification	3.9

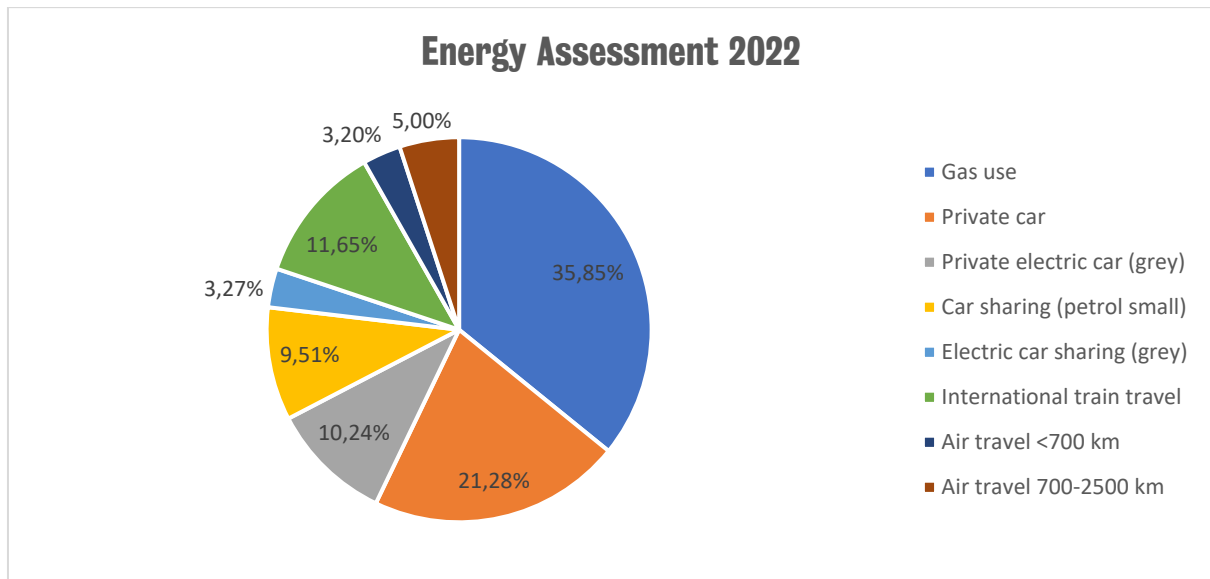
Cross reference table ISO 14064-1

4 Energy assessment

The aim of this energy assessment is to provide an overview of historic and current energy use of VenhoevenCS. This assessment shows at least 80% of the energy flows. Thereby, this document identifies the largest sources of consumption, which can then be targeted individually. This is done so that the processes that contribute to the CO₂ emissions most can be targeted effectively. The underlying data can be found in an Excel documents named

4.1 Identification of the largest consumption sources

As can be seen in 3.4, scope 1 (gas use) accounts for 42% and scope 2 (mobility) for 58% of the total of scope 1 and 2 emissions. In order to get more insight in the largest consumption sources, we differentiate the sources in scope 2.



The largest emission sources of VenhoevenCS in 2022:

- ✓ Gas consumption 35,85%
- ✓ Travel by private car (petrol) 21,28%
- ✓ International Train travel 11,65%
- ✓ Travel by private car (electric) 10,24%

4.2 Analysis

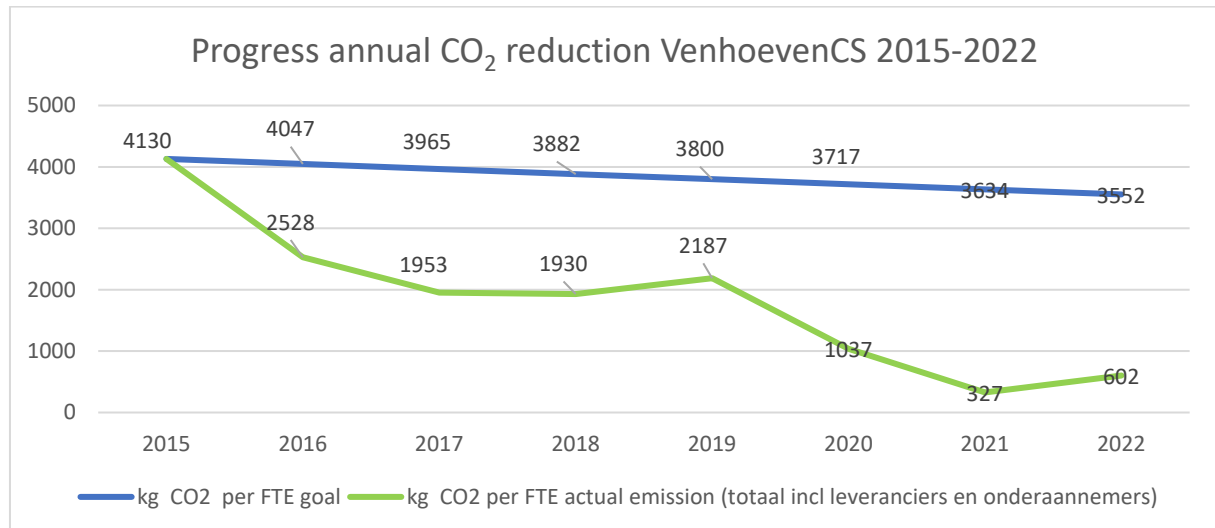
Gas use is our largest energy consumption source. This can be explained by the full use of the new and renovated extension of our office space (from 580 m² to 955 m²).

Travel by private car is mostly explained by projects in Belgium that are hard to reach by public transport. With 2 projects under construction, our project teams had to travel to the site a lot.

International train travel is explained by 2 projects in the Paris region: both are under construction, meaning a lot of site visits. In general it is logical that emissions from international train travel will go up, due to the policy (and personal preference of many) to travel distances < 700 km by train instead of plane.

4.3 Trends in energy use and progress in CO₂ reduction

In the footprint of 2022 it becomes clear that there is an increase of emissions in 2022 compared to 2021. This is understandable considering the lifting of the lockdown in March 2023.



This is the last time this calculation is done.

- ✓ The numbers above include scope 3 calculations of estimated mobility by suppliers and subcontractors. Scope 3 emissions from suppliers and subcontractors are also calculated in the Quantitative Scope 3 Analysis (through a different calculation method). From 2023, we will only calculate scope 3 emissions from suppliers and subcontractors in the Quantitative Scope 3 Analysis.
- ✓ The calculation method for scope 1 will change as of 2023 : from kg CO₂ per FTE to kg CO₂ per m². Scope 2 will remain kg CO₂ per FTE
- ✓ Scope 3 calculations will only be done
- ✓ A new reference year will in place as of 2023
- ✓ New goals will be in place as of 2023

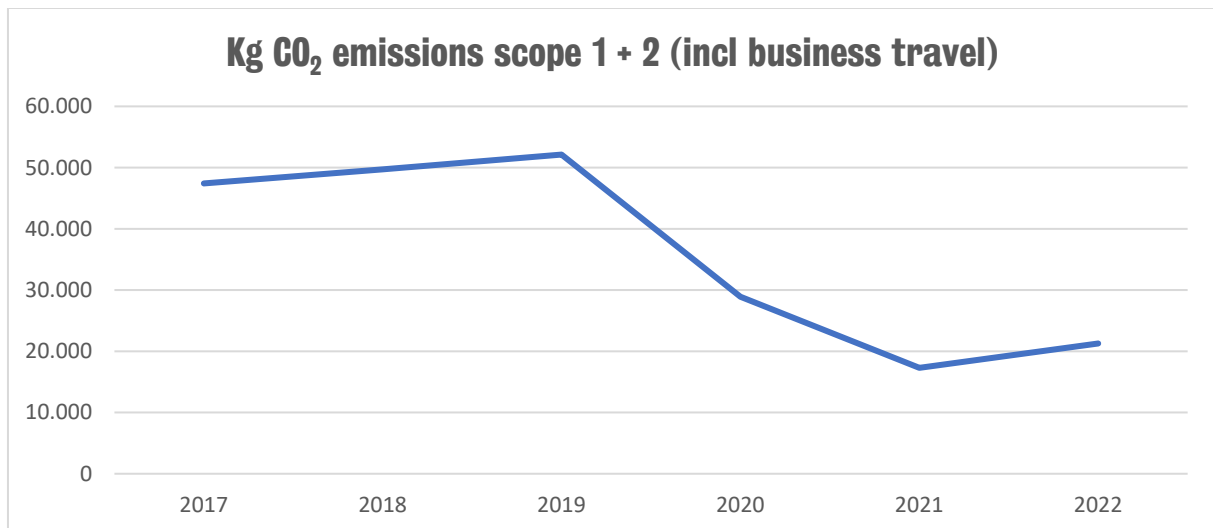
For more information, see Management Plan 2023.

The new trend figures will be total CO₂ emissions of scope 1 and 2 in kilograms (not kg CO₂ per FTE).

There will be no reduction target for combined emissions of scope 1 and 2 as of 2023.

As you can see in the graph below, it shows a similar trend:

- ✓ an increase between 2017-2019
- ✓ a sharp decrease in 2020 and 2021
- ✓ a slight increase in 2022



4.4 Previous energy assessment

Many factors make it impossible to compare the emissions of 2020, 2021 and 2022 with other years:

- ✓ Covid-19 measures from March 2020 – February 2022: a lot of WFH, hardly any 'live' meetings, little business travel
- ✓ Lifting of lockdown in March 2022 in Netherlands did not result in 'business as usual in 2019'
- ✓ China closed for international travellers during 2020, 2021 and 2022
- ✓ We had an unusual peak in revenue in 2020 due to the acquisition of a very large project. In the course of 2020, we starting recruiting extra personnel, resulting in
- ✓ A peak in personnel in 2021
- ✓ In December 2020 extra office space was acquired, resulting almost a doubling of available m2 floor space
- ✓ In 2021 a renovation started of the whole office, which ended in the Summer of 2022
- ✓ In December 2022 commissioning of the new mechanical ventilation system
- ✓ In 2022 step-by-step use of office units as the renovation progressed
- ✓ Full use of office space as intended in September 2022

4.5 Potential improvements

Scope 1: gas

It is clear that in 2022 had too little control over our gas consumption. The new units have separate electricity, heating systems and gas meters. We can have better insight in and control over are gas consumption if we install smart thermostats and a new boiler.

Scope 2: electricity

Due to a certified Dutch wind energy contract, our electricity use is formally set at zero CO₂ emissions. However, for insight it is important to know how much we use in kWh and where the most electricity consumption comes from, especially in relation to gas consumption: it is possible that the new mechanical ventilation will result in more energy use and less gas use. We can have better insight in and control over are electricity consumption if we install smart electricity meters.

Scope 2: mobility

We expect emissions through air travel will increase in the coming years: as soon as China opens up to international travellers again (March 2023), we will have long haul flights again for the first time since 2020 in our calculations.

However, the international train network is improving. Already in 2022 travel to London was done by train. If we firmly implement the policy to travel distances < 700 km by train instead of plane, it will help in decreasing the emissions through air travel. It will, however, increase the emissions by international train travel.

Travelling by car is our most important focus for improvement. Our reduction goals for 2023-2028 geared toward car use. VenhoevenCS has no car fleet and using cars as little as possible has been a policy for ever. Current policy is geared towards using shared electric cars if possible. At the moment that means that only projects within a 100-200 km range of our office can be reached by shared electric car.

5 Strategic plan scope 3

VenhoevenCS considers it important to gain insight into its main scope 3 emissions. In order to obtain this insight, a qualitative and quantitative dominance analysis was carried out. The results are shown below.

As of 2023 there will be a change in the strategic plan scope 3. See Management Plan 2023 for details.

Significant scope 3 emissions

On the basis of both a qualitative and quantitative scope 3 analysis, the emissions in the chain of VenhoevenCS have been mapped.

Qualitative scope 3 analysis

On the basis of a classification into Product-Market combinations and the size of influence and possibilities that VenhoevenCS has on the various Product-Market combinations the following top 3 emerged:

- ✓ Procurement (Goods & Services)
- ✓ Waste
- ✓ Commuting

5.1 Qualitative scope 3 analysis

Based on the 15 GHG-generating categories for scope 3, a quantitative analysis was prepared. For this quantitative analysis, an inventory was also made for each category of which chain partners are involved.

✓ Procurement – goods and services	91,37 ton CO ₂	96.67%
✓ Waste – waste	3,15 ton CO ₂	3.33%
✓ Commuting (bicycle, train and bus)	0 ton CO ₂	0%

The [quantitative scope 3 analysis](#) can be found on our website.

5.2 Reduction strategy scope 3

Commuter travel

In 2015 more than 40% of the employees came to work by bicycle. The remaining employees came to work by public transport, in some cases in combination with the bicycle. VenhoevenCS does not use lease cars.

VenhoevenCS encourages its employees to use the bicycle, public transport or a combination of these methods instead of a car. In 2022, almost 76% of the employees came to work by bicycle. Employees cannot park their car in the office parking garage and parking fees on the street are steep in Amsterdam. This is the most important deterrent of using a car for commuting.

All employees receive a commuting allowance based on the number of kilometres from door to door. It does not matter whether you walk, travel by bicycle, public transport or by car; you will be reimbursed anyway, so employees who live in Amsterdam and come by bicycle also receive an allowance.

Because of the dedicated use of the bicycle (and public transport), the emissions through commuting varies between 0 – 1% of the total scope 3 emissions. As of 2023, emissions through commuting will

not be calculated anymore: only a check on policy change and changes in ways of commuting of individual colleagues will be done.

See Management Plan 2023 for more details

Numbers of employees	Residence	€	Per year	Type of transportation
41	Amsterdam	€ -		Bicycle
3	Haarlem	€ 9,40	€ 2.068,00	Train
4	Rotterdam	€ 33,80	€ 7.436,00	Train
1	Bussum	€ 10,80	€ 2.376,00	Train
1	Heerhugowaard	€ 19,40	€ 4.268,00	Train
1	Delft	€ 29,00	€ 6.380,00	Train
1	Edam	€ 9,58	€ 2.107,60	Bus
1	Hilversum	€ 13,00	€ 2.860,00	Train
1	Noordwijkerhout	€ 13,40	€ 2.948,00	Train

Number of employees:	54	
Number of employees with bicycle:	41	75,93%
Number of employees with PT:	13	24,07%
Number of employees with car:	0	
Total kilometres by PT:	4.220	
Conversion factor:	0,22	kg CO2/km
Total:	0,00	ton CO2

Waste

The waste produced by VenhoevenCS consists mostly of paper, packaging, and kitchen waste. Paper waste has decreased dramatically over the past years due to an almost paperless administration. All suppliers are evaluated yearly by the facilities officer.

The following measures in place when it comes to our waste:

- ✓ Paper waste is separated from all other waste and is collected weekly by a specialized waste management service for recycling.
- ✓ Items and materials are re-used as much as possible: old banners have been made into laptop sleeves, sketch books out of unused/mis-printed paper. See also under Green IT below.
- ✓ No individual waste bins to reduce the use of plastic bags.
- ✓ Choosing suppliers that do not use environmental unfriendly packaging. E.g. our fruit supplier delivers fruit in wooden crates.
- ✓ Many items we use – such as ink cartridges – are collected by specialized companies and refilled or reused.

VenhoevenCS experiments regularly with reducing or reusing waste, but not always with success. Growing mushrooms from coffee waste was not a success. And a trial with compost worms also did not get a follow up.

The biggest part of the emissions from waste is the cleaning company we hire.

Type of waste	costs	Conversion factor		CO2 (ton)
Milieu Service Nederland	€ 2.686	1,17	kg CO2/€	3.15
			Total	3,15
				ton CO2

Since waste accounts consistently for a low percentage of the total scope 3 emissions, these emissions will not be calculated anymore as of 2023.

- ✓ The supplier of the waste services will be added to the Goods & Services calculation
- ✓ Waste management will be part of the procurement and sustainability policy

See Management Plan 2023 for more details

Procurement (Subcontractors & Suppliers)

If we look at 80% of the purchasing turnover in 2022, we count 26 different suppliers and subcontractors, divided over 14 different emission-flows.

The purchase of goods and services is by far the largest factor in the quantitative scope 3 emissions: 96,67%.

More than 32% of the emissions are caused by procurement of computer services: software, hardware, and system administration. Unfortunately, there is not much we can do about it. Our activities are highly dependent on computer services.

17% of the emissions is caused by the renovation of the office space. This service will (hopefully) be terminated in 2023.

Insurances account for 10,5% of these emissions.

There is not much we can do to reduce these numbers. When we choose a super sustainable supplier, the conversion factor will still be the same as for a 'bad' supplier. So it seems the only way to reduce the emissions calculated in this scope is by purchasing less goods & services. However, if we choose a local supplier for our fruit, a supplier that distributes on bicycle, and uses no plastic, it will cost more than buying fruit from a large multinational supermarket. In these calculations, the emissions will go up.

In short: there is no quantitatively way to reduce our emissions. We have therefore decided to move to a qualitative approach as of 2023:

- ✓ Every year we choose a supplier of subcontractor to have a one-on-one conversation about GHG emissions.
- ✓ We will also implement a clear procurement policy that will list qualitative selection criteria, among which GHG emission estimations.
- ✓ We will update our Sustainability policy in 2024, which will include guidelines on how our employees are to conduct their activities: think of using less paper, producing less waste, using less water, etc.

6 Objectives

In this chapter the objectives for the coming years of VenhoevenCS will be presented. This includes:

- ✓ An ambition statement with
 - comparison to peers
 - regards to the SKAO measurements list
- ✓ Main objectives for scope 1, 2 and 3
- ✓ Objective gas consumption
- ✓ Objective energy consumption
- ✓ Objective business travel

Semi-annual the organisation will monitor whether there is enough progress.

These objectives were formulated in 2015. VenhoevenCS has decided to evaluate the objectives and the calculation methods in 2022. A deep analysis of the emissions of the last 5 years will be conducted with an external expert, perhaps resulting in a new reduction and management plan.

6.1 Ambition statement

Comparison to peers

Since 2016 when VenhoevenCS received its first CO₂ performance ladder certificate, it has been very lonely in the list of certificate holders: there were no other architectural or urban planning offices.

Times are finally changing and we see some colleagues entering the CO₂ performance ladder. Usually these organisations have a certificate through their parent company (large multidisciplinary engineering companies).

Peer 1 | Posad Maxwan

Posad maxwan is an urban design and urban planning office. They have a certificate on level 4 on the CO₂ Performance Ladder since 2021. Their objective is to reduce CO₂ emissions by 35% in scope 1 and 2 by 2024 compared to 2019.

To realise this, they have set the following measures:

- Travelling by electric shared car instead of regular car
- Primarily travelling by public transport
- EV cars for management (lease cars)
- Explore options with landlord for showers, smart meters and rewarding energy reduction
- Keep doing online meetings

As a chain analysis goal is to have recommendations on shadow costs in 20% of their designs in 2024.

Peer 2 | Buro Stedenbouw

Buro Stedenbouw is an office for urban and spatial planning. It does not have its own certificate, but their group company DAGNL does. DAGNL is a multidisciplinary engineering company. They have a certificate on level 3 on the CO₂ Performance Ladder. Their objective is to reduce CO₂ emissions by 12% in scope 1 and scope 2 by 2022 compared to 2017.

To realise this, they have set the following measures:

- Generate renewable energy
- Create CO₂ awareness among personnel
- Implement a policy regarding purchasing and leasing more fuel efficient cars
- Introduce electric vehicles

SKAO measure list

The measure list is filled yearly. The measures stated on the list are generic, and not always applicable to the activities of VenhoevenCS. That is why VenhoevenCS translates SKAO measures into concrete actions that are relevant to emission reduction at VenhoevenCS.

The overall conclusion related to this measurement list is that VenhoevenCS is ambitious and progressive.

VenhoevenCS has a combined list of measures, the QHSE action list, consisting of

1. SKAO measure list
2. Measures resulting from the Internet Module of the Activities Decree (AIM)
3. Recognized measures for Energy Saving of the Netherlands Enterprise Agency (RVO Erkende Maatregelenlijsten energiebesparing – EML)
4. Environmental Impact Register (MAR)
5. And all actions and measures arising from external and internal audits, inspections, claims and incidents, management reviews, evaluations, etc.

Conclusion ambition statement

Based on the comparison to peers and the measurement list, VenhoevenCS estimates that the set objectives and measures are ambitious. The organisation sees itself as progressive (and more experienced) compared to peers. This is based on the active reduction of CO₂ in the daily operations, yet with the knowledge that more innovative technologies could be implemented once they become available and economically viable. On the basis of how much energy is being saved already, the measures should be equal to those of peers.

6.2 Main objective

VenhoevenCS has set out to reach the following objective in the coming years:

Scope 1 and 2 goals VenhoevenCS
VenhoevenCS wants to reduce their CO ₂ emissions by 20% in 2025 compared to 2015

The goal stated above will be linked to the numbers of FTE to monitor the progress in CO₂ reduction.

The objective is that measures aimed at making energy flows more sustainable and increasing energy efficiency, which will be realized by 2025 at the latest, will lead to lower total CO₂ emissions in 2025. The CO₂ emissions will be 20% lower per FTE than the emissions per FTE as shown in the footprint compiled for 2015.

This goal will end in 2022. As of 2023 new goals have been formulated. See Management Plan 2023 for more details.

The further specified goals for scope 3 is formulated as follows:

Scope 3 goal VenhoevenCS
By 2025, VenhoevenCS wants to add a paragraph in the design for 90% of the projects* with the embodied energy (shadow costs) of at least 3 primary building elements** and an explanation of the possible reduction.

*) Only for Dutch projects that are constructed (no studies or urban designs)

***) Structure, floors, walls, roofs, foundation, installations, finishes, etc.

This goal will end in 2022. As of 2023 new goals have been formulated. See Management Plan 2023 for more details.

Sub-objective gas consumption

The following performance indicator has been set for this objective: CO2 emissions from gas consumption per FTE from 154 KG in 2015 to 61 KG in 2020.

VenhoevenCS will reduce its emissions caused by gas consumption with 60% per FTE in 2020 compared to 2015	
Measures	Installing a new, more sustainable climate installation.

This goal will end in 2022. As of 2023 new goals have been formulated. See Management Plan 2023 for more details.

Sub-objective electricity consumption

VenhoevenCS will reduce their emissions caused by electricity use with 100% per FTE in 2020 compared to 2015	
Measures	Switching from grey to green electricity

The following performance indicator has been set for this objective: CO2 emissions from electricity consumption per FTE from 659 KG in 2015 to 0 KG in 2020.

This goal has been achieved.

Sub-objective business travel

VenhoevenCS will reduce their business travel with 25% per FTE in 2025 compared to 2015	
Measures	<ul style="list-style-type: none"> - Stimulating remote meetings - Stimulating public transport - Stimulating shared car service – preferably electric cars - Stimulating train travel over air travel

The following performance indicator has been set for this objective: CO2 emissions from business travel per FTE from 561 KG in 2015 to 421 KG in 2025.

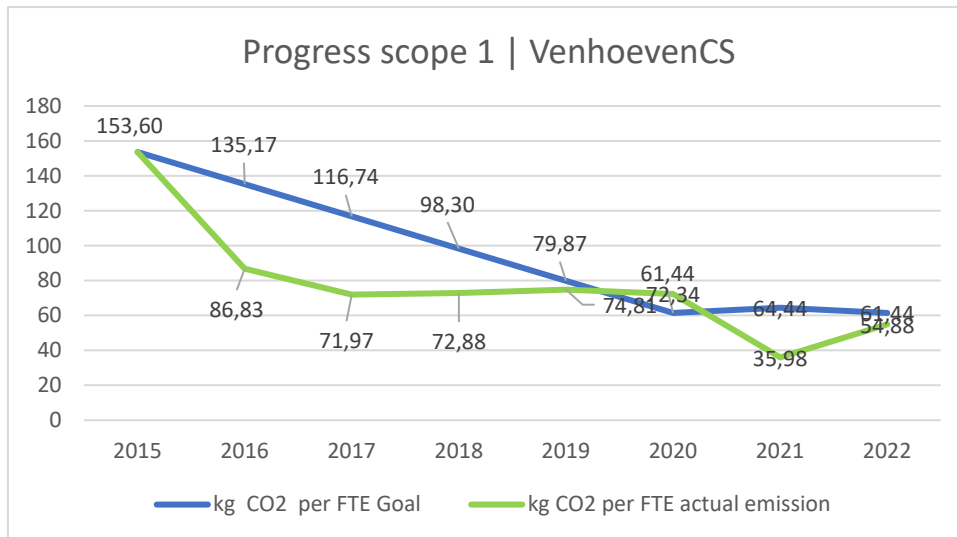
This goal will end in 2022. As of 2023 new goals have been formulated. See Management Plan 2023 for more details.

7 Progress CO₂ reduction

The charts below shows the progress in the actual CO₂ emissions reductions in scope 1 and 2 since 2015.

7.1 Objective scope 1: gas consumption

We have met our scope 1 goal:



Our scope 1 consists solely on gas consumption.

VenhoevenCS is located in an old warehouse built in 1895. The listed status of the building does not allow for anything mounted on the facades. The building has a shed type roof, meaning there is no space on the roof for solar panels. Furthermore, the owners' association of the building is unwilling to invest collectively in sustainable solutions or approve use of communal space for individual purposes.

In 2021 VenhoevenCS decided to change the installations, which were commissioned by the end of 2022. This drastic renovation has improved the indoor climate (better ventilation and improved air quality), but we will have to see whether it has any influence on the amount of gas consumption.

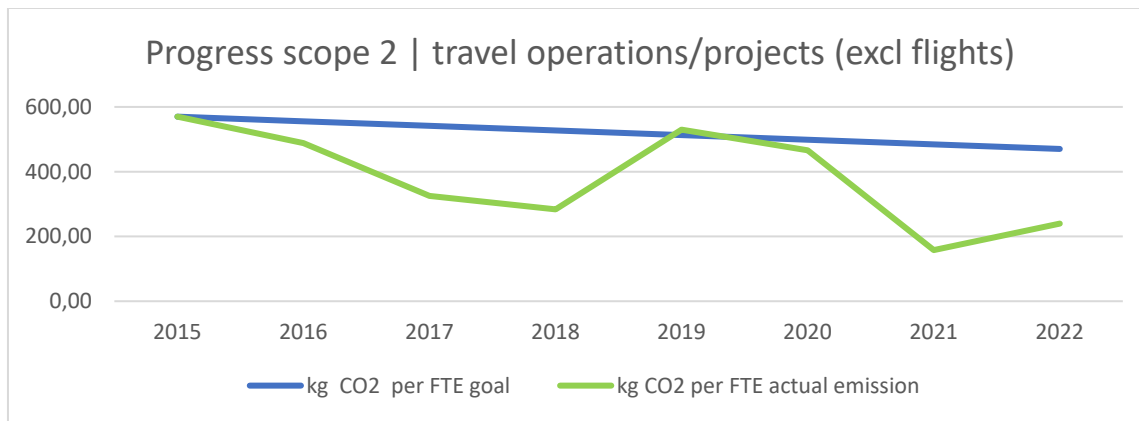
In May 2017 VenhoevenCS switched to forest compensated gas from Green Choice. Green Choice offsets the emissions of our gas consumption by planting and protecting forest within various forest projects.

This goal will end in 2022. As of 2023 new goals have been formulated. See Management Plan 2023 for more details.

7.2 Objective scope 2: business travel

We have met our Scope 2 goal, this is mainly due to the switch in electric cars.

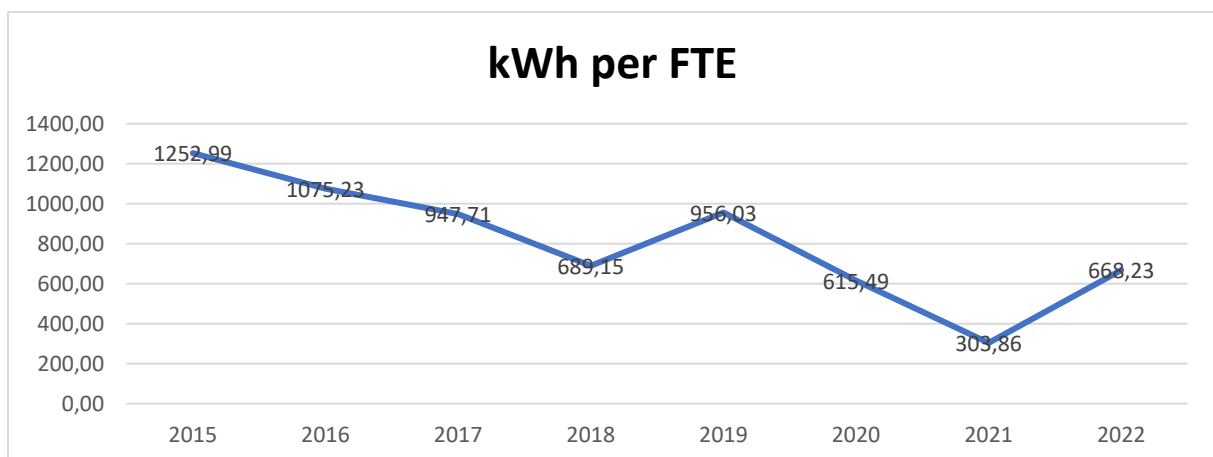
This goal will end in 2022. As of 2023 new goals have been formulated. See Management Plan 2023 for more details.



7.3 Sub-objective electricity consumption

In May 2017 VenhoevenCS switched to 100% certified Dutch wind energy. Since VenhoevenCS has switched to fully green energy, the emission from electricity consumption has been reduced to 0 kg CO2. Nevertheless, reducing energy consumption will always be the goal.

The facilities officer is continuously looking for sustainable alternatives for all our (electrical) equipment. Research into sustainable alternatives, including conclusions, is documented.



In 2020 and 2021 many employees temporarily worked from home, so the electricity consumption calculated here is not representative of the actual usage.

As of 2023, this calculation will change from kWh per FTE to kWh per m².

Colophon

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Signing

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First signed 28 August 2023

Corrections in gas use 2022: paragraph 3.4; 4.1 and 7.1.

Signed, Amsterdam

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2023 Reduction plan VenhoevenCS CORR

Final Audit Report

2023-10-10

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